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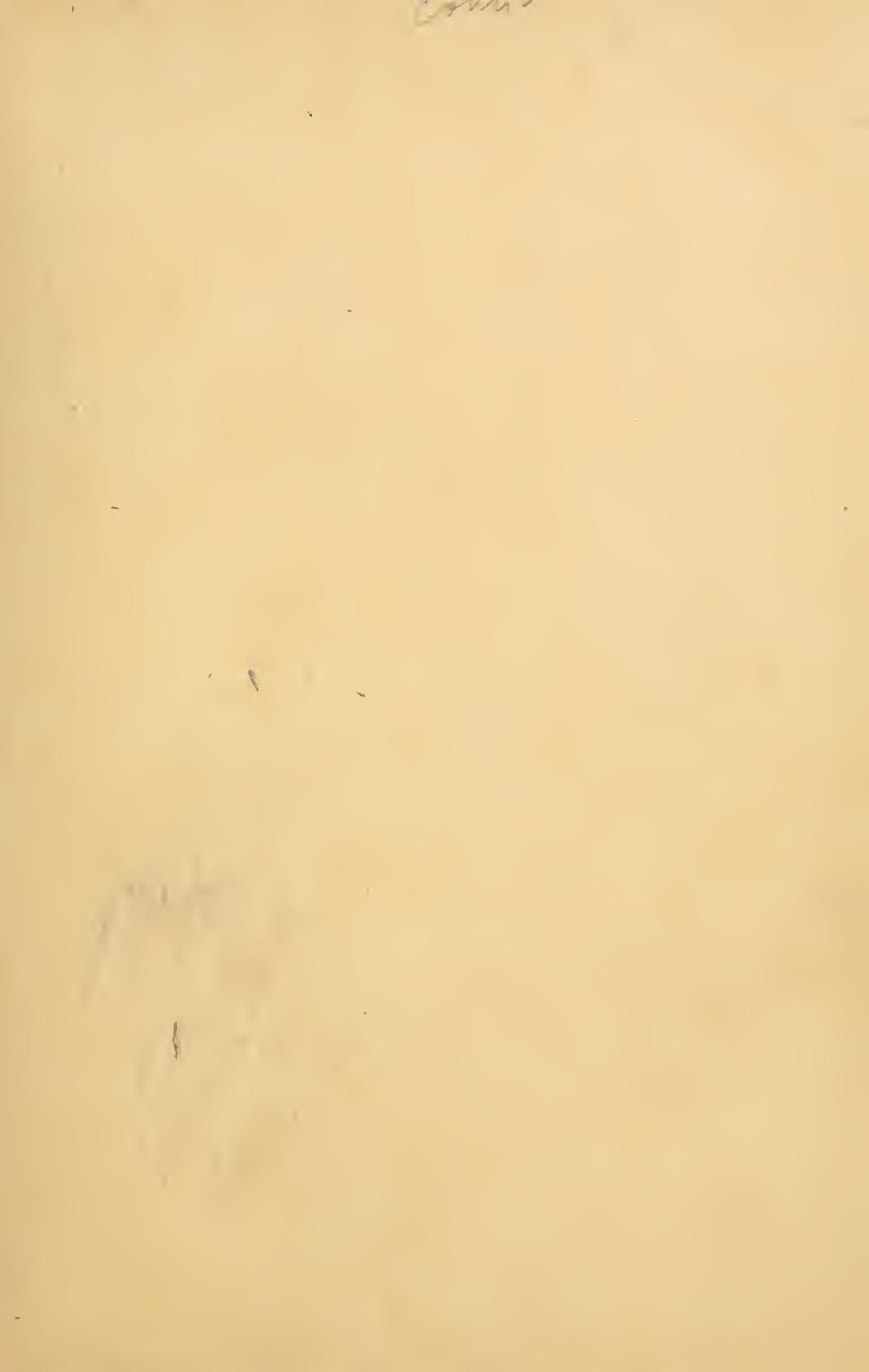
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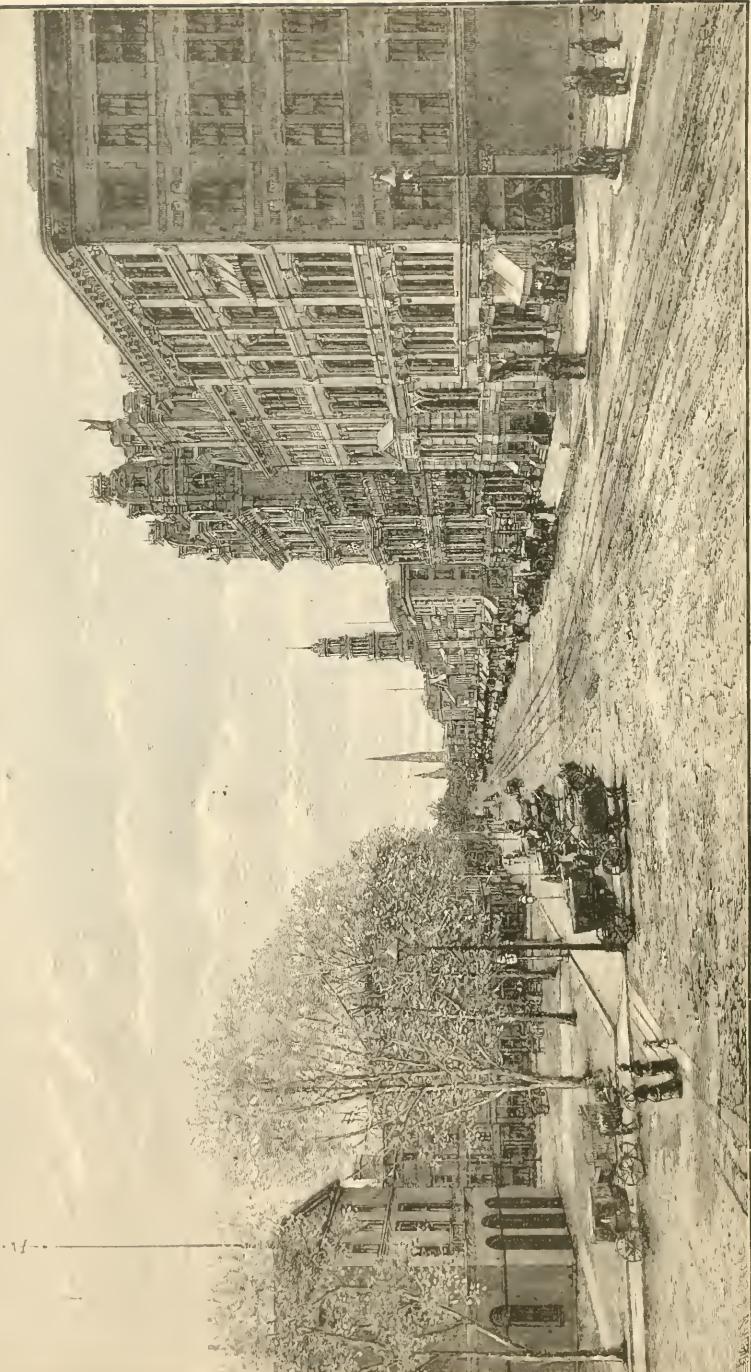
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Manufacturing, Business
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WITH

Brief Sketches of Its History, Attractions, leading
Industries, and Institutions

Illustrated



Published by The Hartford Board of Trade
1889

Introductory.

AT a meeting of the Board of Trade held October 1, 1888, it was voted that the secretary be directed to prepare a pamphlet setting forth the advantages of Hartford as a manufacturing center and place of residence, and giving other facts of general interest. While the scope of the work is limited, great pains have been taken to secure accuracy of statement. The Board is indebted to Edward L. Osgood, of Boston, for the use of several fine cuts, engraved for the Memorial History of Hartford County, a book of unusual merit, the value of which has not been properly recognized. A number of the illustrations were made expressly for this volume and appear now for the first time. Obligations to Geer's Directory are stated elsewhere. The articles on Schools, Trinity College, the Asylum, the Retreat, and the Theological Seminary, were written by persons having intimate knowledge of the subjects. To those who have aided by furnishing facts, or otherwise, the thanks of the Board are tendered.

P. H. WOODWARD,

Secretary.

HARTFORD, CONN., April 9, 1889.

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The City of Hartford.

EARLY SETTLEMENTS.

AT the beginning of the year 1633 the only English-speaking settlements in New England were confined to Plymouth and to a narrow strip along the central shores of Massachusetts Bay. With the exception of a solitary fort and trading-post established near the confluence of the Connecticut and Little rivers by the Dutch from New Amsterdam the entire region to the westward was a wilderness occupied by savages. Two years earlier an Indian sachem from the Connecticut valley brought to Governor Winthrop glowing accounts of the richness of the country, and urged that a colony be sent out to possess the land. Winthrop received the proposal coolly, but Governor Winslow of Plymouth became sufficiently interested to explore the territory in person. In the course of the next few months a knowledge of the fertility and loveliness of the beautiful valley became diffused through the infant settlements, and began to work upon the imaginations of the people. Ere long the more adventurous were discussing the expediency of exchanging the sterile sands on the coast for the exuberance of the newly-found El Dorado buried in the depths of the primeval forest.

Political and ecclesiastical differences were already producing dissensions in the churches. Newtown (now Cambridge), in May, 1634, petitioned the general court for "liberty to remove." Having secured favorable action they applied the following September for leave to remove to Connecticut. After a heated debate the request was denied by the assistants, though favored by the deputies. The arguments used on both sides conceal rather than disclose the real motives underlying the movement. Meanwhile individuals, without waiting for permission from the authorities, abandoned the towns in Massachusetts Bay to

build new homes at Wethersfield, Windsor, and Hartford. No historian has transmitted a record of the adventures and hardships of the earliest explorers.

The refusal of the general court to permit the disaffected to migrate only deepened the feeling of discontent. Under the charter-government of Massachusetts Bay the power of regulating the affairs of the colony was confined to a few leaders, the common people, though largely in the majority, having no vote in the election of magistrates, or voice in determining its policy. In fact, none but church-members were called "freemen," or permitted, however remotely, to touch the machinery of state.

Annoyance and oppression invariably accompany the exercise of unlimited power. Nurtured under an aristocratic system, the leaders looked down upon the less favored as made of inferior clay, and as incapable of taking proper care of themselves without a constant and all-pervasive oversight. A sense of superiority furnished the license and the warrant for vexatious interference in many ways with purely private and personal concerns. The tyranny was keenly felt and bitterly resented. Having given up the tender associations of home and braved the perils of the Atlantic to gain in a distant wilderness the liberty denied in England, the poor found, not freedom and equality, but another despotism working under less sanguinary but not less meddlesome and exasperating forms.

Fortunately for the colonists and fortunately for humanity, Thomas Hooker, a man of rare gifts and force, appeared on the scene, in 1633, as the champion of democracy. In his mind were taking shape conceptions of government then novel and revolutionary, but destined to be incorporated in the constitutions of the States severally and of the United States, and destined in the future, no doubt, to universal acceptance. The people turned to Hooker and found hope in his views. Overborne by the local oligarchy and weary of strife, he resolved to depart from the jurisdiction of the Massachusetts Bay Colony, and to find elsewhere freedom for himself and for his church. With the broad continent spread out before them it is not strange that the little band turned their eyes wistfully to the valley of the Connecticut.

Six months earlier, in October, 1635, a party of sixty, mostly from

Cambridge, with their cattle and other belongings, journeyed across the country with the purpose of settling in Hartford. Terrible experiences awaited them. Before the middle of November ice closed the river, barring out provisions for the winter which had been forwarded by water. Threatened with starvation some made their way to Saybrook, and thence by boat to Boston; some retraced through deep drifts the path by which they came; while a few remained, subsisting in part on acorns gathered beneath the snow.

In June, 1636, Hooker, with Stone, his assistant, led the Cambridge congregation, numbering one hundred, overland to Connecticut. The goods, tools, and farming utensils of the party were carried in wagons, and the cattle were driven on foot. For two weeks the column journeyed through an unbroken wilderness, surmounting as best they could the obstacles by the way. At length was reached the fair spot which had long lured their thoughts, and with this accession of strength the first inland outpost of civilization in New England became permanently established.

Honesty in dealing with the natives marked the progress of an enterprise born of high moral impulses. In behalf of the proprietors, Stone and William Goodwin bought from the Indians on satisfactory terms an area of thirty or forty square miles, the whites already on the ground being admitted to the privileges of the purchase. The transaction did not please the Pequots, an intrusive column from New York, who claimed sovereignty over the local tribes by right of conquest, but the sturdy Puritans gave no heed to titles based on violence and robbery. The Pequots lost little time in making things uncomfortable, sallying from their fastnesses east of the Thames to exterminate the young settlements with torch and tomahawk. But the savage pastime was of short duration, for the following June a company of ninety men, recruited at Hartford, Windsor, and Wethersfield, under command of John Mason, destroyed forever at a single blow the power of this strong and cruel tribe. Thenceforth the people of Connecticut had little trouble with local Indians, though they contributed generously of men and means to aid other colonies in the wars waged for a century and a half beyond their borders.

CONTRIBUTIONS OF HARTFORD TO CONSTITUTIONAL SELF-GOVERNMENT.

We are approaching events seemingly trivial, but, in reality, worthy to be counted among the most important that have happened in the history of the race. During the first year after the migration from Cambridge the three towns were governed by a commission appointed by Massachusetts Bay. At the expiration of the period the little communities, in close alliance with each other, set up an independent government, with not even an implied reference to parliament, king, or any other external earthly authority. Deputies chosen by the towns met at Hartford, May 1, 1637, elected six magistrates, and prescribed an oath of office. In the two houses thus constituted appears the germ of the American legislative system, composed of two coördinate but independent branches, the concurrence of both being required in the enactment of laws. The Massachusetts plan of allowing only church-members to vote or hold office was emphatically repudiated. Immigrants wedded to sacerdotal restrictions moved on to New Haven, where they were amply accommodated.

In January, 1639, the three towns adopted "the first written constitution in the history of nations." It rested on the doctrine previously elaborated by Hooker, that the choice of public magistrates belongs to the people, from their free consent alone springing the fountain of authority, and that they have the further right to define and limit the powers of their rulers. The ever memorable words of Abraham Lincoln at Gettysburg, "a government of the people, by the people, for the people," were but an echo from the pulpit of Hartford's first pastor, given forth more than two hundred years before at the birth of the commonwealth. American democracy traces its origin to Hartford.

One hundred and fifty years later the long and bitter struggle in the convention of 1787, to form a Union of the States, ended in a compromise which adopted the essential features of the Connecticut system. As here the towns retained all powers except those specifically given to the commonwealth, so the federal constitution lodged in the States all powers not expressly delegated to the general government; and as here the units, whether large or small, were guaranteed

equal* representation in one branch of the legislature, so the federal constitution gave to all States alike equal representation in the senate. It was this essential feature which alone induced the small States to ratify the instrument, and thus make possible a united and powerful nation.

In a little pamphlet intended to call attention to the merits of Hartford as a place of business and residence, a sense of filial duty almost compels her children to begin by pointing to the great part she has played in the evolution of constitutional self-government. As yet the idea has barely started on its fruitful and beneficent mission. By its own inherent rightfulness and strength it must in the coming ages depose all kings, abolish hereditary castes, uproot abuses born of remote deeds of violence, enthrone justice in the place of prescription, and establish universally the paramount right of the people to choose their own rulers and make their own laws. The transfer of sovereignty from a single family to the community at large involves the duty of educating present and future generations to meet the obligation with intelligence, and with fidelity to common interests. How Hartford is performing this part of her work will be seen further on.

ADVANTAGES OF LOCATION.

With the continent to select from, the first emigrants from Massachusetts Bay made no mistake in turning their steps to Hartford, for the adjacent country possessed the natural resources which rendered life easy during the agricultural period, and which enabled their descendants to easily lead in the mechanical era, introduced early in the nineteenth century. At this point the valley is about twenty miles broad, bounded on the east by the Bolton and on the west by the Talcott range of hills, both often by courtesy called "mountains." From buildings high enough to command an unobstructed view, the unaided eye on a clear day descries the wavy outlines of Mt. Tom, indenting the line of the northern horizon, and further east the irregular hills that skirt the southern borders of Massachusetts. A little west of south appear the rugged bluffs overhanging Meriden, and

* Under the State constitution of 1818 new towns to be formed thereafter were allowed one representative, the old towns retaining two.

turning thence a few degrees eastward the valley fades from sight far away in a broad and seemingly unbroken plain.

The towns north and west of the city are famed for fertility of soil, having long been known as the garden of New England. The streams round about were among the first to be utilized for manufacturing purposes, so that the valley is thickly dotted with prosperous and tributary villages, all bringing traffic to Hartford and adding to her fullness of life. Residents of cosmopolitan habits with unanimity aver that no equal area on the planet contains so many beautiful drives over good roads, and strangers, after devoting a few summer days to the enjoyment, generally acquiesce in the correctness of the claim.

RAILWAY SERVICE.

Railways radiate from the city in seven directions, leaving no territory undrained, and relatively speaking the extent is surpassed by the quality of the service. On the "Consolidated" road sixteen passenger trains run daily to New York and Boston, the fastest at the rate of forty miles an hour, including stops. Accommodation alternate with express trains in a way to give intermediate stations the benefit of the quickest service beyond the nearest city without delay to through travel. With the rapid removal of draw-bridges and grade crossings the running time will be still further reduced. The rails are of heavy steel, the road-bed ballasted with rock, the cars luxurious, and devices, contrived to promote the comfort and safety of the public, are tested as they appear, and freely adopted. This is the only line in the country which has voluntarily reduced fares to a uniform rate of two cents a mile, and perhaps the only one which can afford to make the concession, for the element of water is so far absent from the property that it could not be duplicated to-day for less than three times the amount of its outstanding stock and bonds. The shares injected by the Schuyler frauds and old consolidations are offset many times over by earnings expended in construction and by enhancement of values due to growth of population and wealth. A single line connects the city with ample pier accommodations, not only in New York harbor, but also at Bridgeport, New Haven, Saybrook, and New London. Local freights are low, and to all distant

points Hartford is put on a footing of equality with New York. Goods requiring care in handling are forwarded in cars furnished with passenger trucks.

Over the New England road, double-tracked the entire distance except for twenty miles between Vernon and Willimantic, Hartford has a second line to Boston, furnished with the best terminal facilities to be found in that city. From Willimantic a branch—once the main trunk—extends to Providence. Westward the New England connects at Newburg with the Erie and the Pennsylvania coal fields. Within a few years, by consolidations and extensions, this has expanded into one of the great systems of the East, the physical improvement of the property meanwhile keeping pace fully with the increasing demands of travel and traffic.

The Connecticut Western, flanking the Talcott hills on the north and crossing the southern spurs of the Green Mountain range in the northwestern corner of the State, opens an independent and competing route to the anthracite coal region, over the new bridge at Poughkeepsie—the only bridge spanning the Hudson below Albany.

The transition from the turnpike, winding wearily over endless hills, and at times almost impassable from snow or mud to the smooth pathway of glittering steel—from the cramped and comfortless stage coach to the palace car—has been wrought within the memory of many who still think themselves young, for the whistle of the locomotive first sounded in Hartford late in 1839. The trip between New York and Boston, previously filling four long and wearisome days, is now luxuriously accomplished in six hours.

WATER TRANSPORTATION.

Besides excellent railway facilities Hartford has an outlet for its commerce by water, the river opening for navigation about March 25th, and closing about December 10th. The Transportation Company, which does most of the business, owns two steamers, eight tugs, and twelve barges. Its two steamboats make daily trips to and from New York, carrying both passengers and freight. The City of Springfield, a craft of 1,417. tons burden, drawing from nine to ten feet according to load, when the river closed last winter had lost but two trips in five years. The tugs have a capacity for towing 1,000 tons each up stream, except

in times of freshet, and from 3,000 to 6,000 tons on the Sound. Ordinary barges now bring 600 tons, and the next size to be built will carry 800, the capacity having been increased from 200, the largest in use fifteen years ago. On the Saybrook bar the depth of water is twelve feet at medium tide. Over 400,000 tons of freight are shipped to and from Hartford every season by river. In 1888, the Transportation Company brought 140,000 tons of coal, while large quantities of coal and lumber were brought by craft belonging to other parties. This great natural highway guarantees in perpetuity low rates for freight.

In the summer months the Sunshine makes tri-weekly trips to Sag Harbor, stopping at New London and other intermediate points. Propellers and other independent craft come and go from various ports as cargoes offer. About \$10,000 are expended annually by the government to deepen the channel, and otherwise improve the navigation of the Connecticut.

A PORT OF ENTRY.

The customs district of Hartford embraces all river towns from Saybrook to the Massachusetts line, with this as the port of entry. The entire collections reach \$250,000 per annum, of which four-fifths, or \$200,000, are upon goods either consumed in or distributed from this city through local merchants. Most of the imports are brought by rail under government locks without detention in New York or Boston. It is estimated that at least \$125,000 additional are paid elsewhere every year on merchandise consigned to Hartford parties.

INSURANCE.

In enumerating the activities of Hartford one naturally begins with insurance, for the town was a pioneer on this line of effort, and has passed triumphantly through sore straits and great public disasters, winning by pure merit a preëminence, which promises to be permanent. Beginning in a small way by the issuance of marine and fire policies, she afterwards established life companies, and later on diverged into special branches, wherein her success has provoked many imitators, most of whom have paid dearly for their rashness. Leadership has been gained not by luck or accident or favoring circumstances, but

by profound study of the facts and principles involved in the business, by high native intelligence, sharpened to a keen edge in frequent adversities, by patient endurance through periods of misfortune, by heroic courage in meeting exceptional calamities, and not least by scrupulous integrity in dealings with the public. Sporadic cases of dishonesty will occur everywhere, but here instances of the kind have been rare, and even before any overt act, men suspected of crooked proclivities have found the atmosphere extremely uncongenial and repellent. A few years ago when reputed wreckers from over the border obtained control of the Charter Oak Life, the intrusion roused a storm of righteous indignation, which swept them out in spite of herculean efforts to retain possession. This was the first and last attempt of professional manipulators to capture a Hartford company, the raid ending in such ignominious failure that the memory of it is likely to preclude for coming time repetition of the experiment. Aside from the ruin of the Charter Oak, the history of the business here, old and full as it is, offers but one other instance where bankruptcy can be traced even remotely to improper practices.

From the inhospitality extended to the strangers who were driven from the Charter Oak, it would be an error to infer that feelings of provincialism or narrowness have any share in the conduct of the business. Ability, character, special aptitudes, technical skill, are both welcomed and drafted from every quarter. Less than one-half the men now managing the home offices were born in Connecticut, and a bare half dozen in Hartford, for in her cosmopolitanism she takes as freely as she gives. In brief, the phenomenal success of the city in underwriting has been gained by *intelligence* and *integrity*.

A pecuniary measure of the popular estimate of the mental and moral solidity of the fire insurance management may be found in the market value of the shares of the several companies, for with one billion of dollars at risk and liable to destruction, they sell at a price which, after the payment of taxes, leaves an average income of about six per cent. a year on the investment.



HARTFORD FIRE INSURANCE COMPANY.

The lessons of history are most easily learned by examples. The Hartford was chartered in May, 1810, but from a policy still extant seems to have had an inchoate being as early as 1794. On the 10th of June following the company was organized by the choice of Nathaniel Terry as president and Walter Mitchell as secretary, with a capital of \$150,000, made up of ten per cent. in cash and the balance in the notes of shareholders, secured by mortgages or approved endorsements. It was hoped that the profits would gradually pay off the notes, removing the liability to further assessments, but the makers were men of pecuniary solidity, prepared to meet the obligations should the necessity arise. Thus equipped the pioneer company, like

Columbus at Palos, embarked upon an unknown sea, little dreaming of the discoveries to be made, the wealth to be won, or of the all-pervasive influence of the venture upon the future development of the town. They started on the voyage without compass or chart, for even the elementary laws underlying the business had not then been generalized, the facts were ungathered, and the literature of the science, now loading the shelves of large libraries, had not thrown one ray of light athwart the darkness.

Those early navigators took great risks—risks which their lineal successors, though commanding three hundred and fifty times the volume of cash assets, would scrutinize closely before accepting.

Policy No. 5 covered \$11,000 on a gin distillery, at 1 per cent. per annum.

No. 12, \$13,000 on a frame store and stock, at $8\frac{1}{2}$ cents.

No. 21, \$20,000 on a stock of dry goods, at 75 cents.

No. 22, \$20,000 on a stock of hardware, at 25 cents.

The hazard was less than it seems, for the character of the insured, though unmentioned in the policy, formed one of the most important elements in the contract. Every risk was accompanied by a survey of the property, and the written representations of the owner had the force of a guaranty. Persons desiring insurance solicited it as a privilege from the officers of the company, and being required to carry themselves a material part of the hazard, the two parties to the agreement became partners in the venture. A man of bad reputation found difficulty in obtaining a policy on any terms. At first no commission was paid to agents, their compensation coming from the survey and policy fee, which varied with the labor, and was collected from the assured.

For the first year the income of the company was \$4,498, and the expenses \$530, of which \$300 went in salary to the secretary, with an allowance of \$30 extra for rent and firewood. Measured by modern ideas progress was very slow, and hence all the more sure, for the managers were learning the principles of the business and correcting in the germ errors which, under a less careful system, might have grown to fatal dimensions. A decade later the annual income had crept up to \$10,102, and in 1832 to \$52,394, showing for 21 years an average annual gain of about \$2,300. During a part of the period

losses were heavy, and some timid holders gave away their shares to get rid of the note-liability.

In June, 1835, Eliphalet Terry became president; James G. Bolles, secretary; and C. C. Lyman, assistant secretary. Mr. Lyman held the place 43 years, refusing all offers of promotion. Six months of remarkable prosperity followed the installation of the new management, and in December a supper was given to celebrate the coming dividend, which, however, was doomed to disappear in smoke, for the next day came news of the great fire in New York city. The losses of the company exceeded \$60,000, but the crisis was met with a courage that turned a calamity into a blessing, bringing at once a large, permanent, and profitable enlargement to the volume of its business. Mr. Terry, having pledged his own property to the Hartford Bank as security for drafts to be drawn, with Mr. Bolles, started in a sleigh, with the mercury below zero, to grapple in person with the issue. On arriving in the city they found most of the insurance companies bankrupt, and a state of despondency bordering on panic. Property owners outside of the burnt district felt that they were no longer protected, while the actual sufferers looked for small dividends on their policies. Mr. Terry announced that he would pay in full all losses of the Hartford, and take new insurance. The promise—the first sign of cheer in the gloom—was fulfilled to the letter. Business poured in at highly remunerative rates, and the deep gap in its assets was soon refilled.

Between July 19, 1845, and May 18, 1849, fires occurred at New York city, Nantucket, Albany, and St. Louis, which cost the Hartford \$69,691.30, \$54,521.65, \$57,637.43, and \$58,676.83 respectively, making a total of \$240,563.21 in less than four years, or more than the total amount of its gross assets at either the beginning or end of the period. Sixteen years of exemption from notable disasters ensued, to be followed in swift succession by the fires at Augusta, Maine, September 16, 1865; at Portland, July 4, 1866; and at Vicksburg, December 24, 1866; involving losses of \$57,022.16, \$151,288.31, and \$55,077.55 respectively. But the company was now much better prepared to withstand the strain, for the capital had grown to a million, and even after the extraordinary payments at Portland and Vicksburg, was able to add over \$200,000 to its assets from the business of 1866.

Mr. Terry remained president till his death in 1849. The other presidents have been Hezekiah Huntington, from 1849 to 1864; Timothy C. Allyn, 1864-7; and George L. Chase, the present incumbent, since 1867.

The Hartford entered the agency field early, and from 1854 pushed westward and southward with great vigor, having the headquarters of this department at Columbus, Ohio, under the charge of David Alexander. When the rebellion cut off relations with the South the western office was transferred to Chicago, where G. F. Bissell succeeded Alexander in 1863, and at the end of the war the loss of receipts from the Southern States had nearly been made good by extensions in the Northwest.

The capital stock remained at \$150,000—90% paid in earnings—till doubled in 1854. In 1857 it was increased out of profits to \$500,000, and in 1864 the company celebrated its rounded half century by a third stock dividend which brought the capital to one million.

The year 1870 witnessed the completion of the tasteful and convenient home office, built of Quincy granite, having a frontage of 60 feet on Trumbull and 100 feet on Pearl streets, with four stories above the basement.

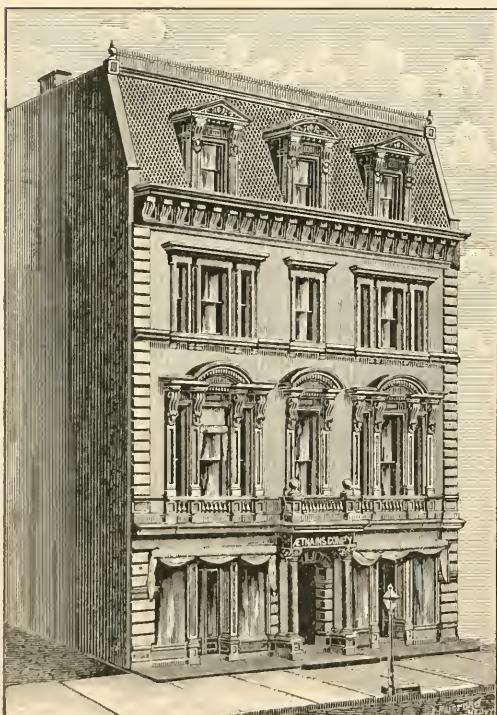
For losses incurred in the Chicago fire of October, 1871, the Hartford paid out \$1,968,225.32, meeting every obligation in full. A bare million—a sum insufficient to meet the requirements of the re-insurance fund—was left in the treasury. By a vote of the directors the capital was reduced to \$500,000, and at once increased to \$1,000,000 by fresh subscriptions, the rights to subscribe commanding a premium of \$85 a share in the darkest days of the disaster. Thirteen months later, November 9, 1872, it incurred losses amounting to \$485,356 at the Boston fire, but met the drain out of current receipts.

During the last decade the assets of the Hartford have increased from \$3,456,021 to \$5,750,080; the net surplus, from \$935,399 to \$2,233,982; the premium income from \$1,460,124 to \$2,594,587. It has disbursed \$2,500,000 in cash dividends to shareholders. In 1877 it made a stock dividend of \$250,000 from surplus. From the invest-

ments alone the annual income is sufficient to pay twenty per cent. in dividends on the \$1,250,000 of capital.

George L. Chase has been president of the company since 1867. He brought to the position a rich and varied experience, and his skill as a pilot was early put to the test in carrying the institution successfully through the calamities at Chicago and Boston, which overwhelmed most of its contemporaries. P. C. Royce, the secretary, and Thomas Turnbull, assistant secretary, have both had long familiarity with the problems of underwriting.

ÆTNA INSURANCE COMPANY.



ÆTNA INSURANCE BUILDING.

the actual cash investment, making \$900. From the organization till May 31, 1820, the total current expenses, including \$225 for rent and the salary of Isaac Perkins, reached the sum of \$451.82. During this period the receipts from all sources amounted to \$3,646.42, and as no

The Aetna Insurance Company, the second in the city in age but the largest in assets and business, was organized in 1819, with Thomas K. Brace as president and Isaac Perkins as secretary. Of the original capital of \$150,000, ten per cent. was paid in cash and the rest in the notes of shareholders. How modest were the beginnings of this great institution appears from the balance sheet presenting its operations up to May 31, 1820. On the debit side the principal item is the dividend of 6 per cent., declared Dec. 15, 1819, on

losses had occurred the fiscal year closed with a profit balance of \$2,294.60.

Until the formation of the Aetna the few American companies in existence restricted their efforts almost entirely to the local business that could be conveniently secured by the executive officers. Very early the Aetna initiated a radical departure from the previous method, planting agencies cautiously at the more important centers of trade, and gradually extending the system till every desirable place in the country was occupied. April 2, 1822, the directors, by vote, requested the secretary "to journey on the sea-board of Massachusetts, New Hampshire, and Maine, thence through the interior of the country home, and establish agencies at all places he may think proper, for which he shall be allowed his expenses and two dollars a day for his services." During the trip the per diem allowance took the place of salary.

In the summer of 1838 Mr. Brace made a trip through Central New York, going as far west as Lockport, and returning *via* Montreal, Burlington, and Saratoga. His letters by the way, addressed to Simeon L. Loomis, secretary, are still preserved in the archives of the company. The journey, which would now require a week, was then leisurely performed between the middle of June and the first of September.

No small part of the pioneer work was performed by the early director, who traveled west and south by stage and boat, long in advance of railways, establishing outposts at frontier towns which have since developed into populous cities. In this way, to a large extent, Cincinnati, Detroit, Chicago, Louisville, St. Louis, Memphis, Natchez, New Orleans, Mobile, and other places were reached, and the territory partially pre-empted.

The Aetna was the first company to issue a fire policy in Chicago, having in 1834 appointed Gurdon S. Hubbard to represent it. The document was on exhibition in the historical library of that city till destroyed in the fire of 1871. Mr. Hubbard remained a trusted agent of the company till his retirement, after more than thirty years of faithful service.

During the period of infancy, while the company was fighting for existence, the economical scale of expenditure arranged for Secretary

Perkins on his initiatory trip through New England was rigorously adhered to. Just twenty years later, in 1842, Joseph Morgan, one of the original directors, made an extensive circuit, taking in New Orleans and Chicago and all the important intermediate towns. The journey, estimated at 6,104 miles, occupied ten weeks, at an average expense, including fares and hotel bills, of \$3.29 per day. Chicago then had from four to five thousand inhabitants. The seed thus scattered by the way-side has already brought forth fruit an hundred fold, and the harvest has hardly begun.

The *Ætna* escaped the fire of Dec. 16, 1835, in New York city—the first in the series of great American conflagrations—which destroyed property to the value of \$15,000,000, and bankrupted twenty-three out of twenty-six local insurance companies. It entered the city the following year, having for agent Augustus E. Hazard, afterwards the organizer and president of the Hazard Powder Co. of Enfield. It was not so fortunate in the fire of 1845, which swept \$6,000,000 of property from the business center of the metropolis, and cost the *Ætna* \$115,000. When the news reached Hartford Mr. Brace called together the directors and told them that the calamity would probably exhaust the entire resources of the company. Going to the fire-proof he took out and laid on the table the stocks and bonds representing its investments. Little was said, each member waiting for some one else to take the initiative. At length the silence was broken by the question, “Mr. Brace, what will you do?”

“Do,” replied he, “Go to New York and pay the losses if it takes every dollar there,” pointing to the packages, “and my own fortune besides.”

“Good, good,” responded the others. “We will stand by you with our fortunes also.”

Such an increase of premium-receipts followed that in twelve months the *Ætna* was as strong in cash as before.

Affairs ran along with the usual vicissitudes till 1849, when the company was called upon to contribute \$125,000 to the sufferers at St. Louis, and to see nearly one-half of its capital of \$300,000 evaporate in the disaster. But the season of storms which culminated at St. Louis and sent many competitors to the bottom, convinced the public of the inherent staunchness of the *Ætna*, and by the prudent

enterprise of its managers even cruel reverses to the general interests of fire insurance were made to bring to it large accessions of business and revenue.

The Protection, the third insurance company organized at Hartford, failed in 1854 through the continuous unprofitableness of its marine department, aggravated by the incurable injuries received at St. Louis in 1849. It had been the pioneer in occupying the small as well as the large towns of the west, but the gains from these sources were insufficient to offset the losses incurred at sea and on our inland waters. Here was a broad gap to be filled, and the *Aetna* lost no time in meeting the emergency, for it opened a branch office at Cincinnati in 1853 with the firm purpose of keeping step with civilization in progressive occupancy of the west. When a few months later the Protection yielded up the ghost a material share of the business dropped as ripened fruit into the lap of its rival. Soon a thousand agents were at work west of the Alleghanies, and in the ensuing period of exemption from large fires the company rolled up wealth with a rapidity never equaled before either in the United States or elsewhere. In 1854 the capital was increased from \$300,000 to \$500,000, one-half contributed by shareholders and the other half by a dividend from profits. The figures remained at this point but a short time, for in 1857 they were changed to an even million. In 1859, from the profits of two years, the owners were gladdened by a second stock dividend of half a million, which was followed in 1864 by another for \$750,000. Evidently the figures, \$2,250,000, offended the eyes of the directors, and accordingly, after enduring the sight for two short years, they raised the capitalization in 1866 by a stock dividend to the rounded, symmetrical, and artistic sum of \$3,000,000.

In April, 1852, Chillicothe, Ohio, called for \$115,000, and three months later Montreal took \$105,000. For the next ten years the company enjoyed remarkable immunity from large losses, considering the extent and magnitude of its business. With the turn of the tide even the \$163,000 required to settle the Portland claims in July, 1866, and the \$120,000 sent to Vicksburg in January, 1867, did not perceptibly interrupt the upward flow of assets.

Not content with furnishing indemnity to an ever-widening circle of patrons the *Aetna* initiated the work of educating the public in art

by publishing the first chromo poster in 1855. The picture represented a steamer throwing a stream of water upon a burning block. How deep in human nature lay the hitherto dormant and unconscious appetite destined to be roused by the venture into omniverous voracity, was quickly disclosed through the abundance of aliment supplied for its gratification.

The company was the first to introduce the use of outline charts in 1857. Out of this germ grew the Sanborn maps, now an essential part of the equipment of all large offices.

By the Chicago fire of 1871 the *Ætna* lost \$3,782,000. To meet the impairment the capital was reduced one-half, and immediately re-filled by cash payments of \$1,500,000. Thirteen months afterwards the Boston fire absorbed \$1,635,067 more, and the inroad was made good by a further contribution of \$1,000,000 from the shareholders, making two and one-half millions furnished by them in a year to maintain the technical solvency of the company. After deducting the losses at Chicago, over \$2,600,000 of assets were left in the treasury exclusive of the fresh contributions. In 1881, the capital was raised to \$4,000,000 by an issue of \$1,000,000 of new stock to the shareholders at par, not as in 1871 in consequence of unusual disasters, but simply to make it the largest fire insurance company in the country. Prior to January 1, 1889, the *Ætna* had paid in losses, \$63,046,000, and at the same time had in its strong box \$9,780,751 in solid securities.

The presidents of the *Ætna* have been Thomas K. Brace, 1819-1857; Edwin G. Ripley, 1857-1862; Thomas A. Alexander, 1862-1866; Lucius J. Hendee, 1866 till his death, September 4, 1888. Mr. Hendee was succeeded by J. Goodnow, who had been secretary since 1866, and at the same time William B. Clark, assistant secretary for twenty years, was promoted to the vice-presidency. Both of these gentlemen have been with the institution through periods of trouble as well as prosperity, and both are eminently qualified to carry it forward in its career of growth and usefulness.

The other officers are Andrew C. Bayne, secretary; James F. Dudley and William H. King, assistant secretaries; E. J. Bassett, general agent; and J. C. Hilliard, T. P. Stowell, E. O. Weeks, C. H. Hollister, F. W. Jenness, H. E. Rees, and W. A. Warburton, special agents.

**PHOENIX INSURANCE COMPANY.**

The Phœnix, the third and only remaining stock company of Hartford which had accumulated a sufficient volume of assets to pay in full the enormous losses sustained in Chicago in 1871, was seventeen years old when struck by the cyclone, having been organized June 21, 1854, under a perpetual charter granted by the legislature the previous May. When opened the subscription books called for a capital of \$100,000, but so eager were the public to join in the venture that at the first meeting for the election of officers it was voted to increase the amount to \$200,000, and one week later, the date fixed for the additional subscriptions, the shares were instantly taken with no abatement of eagerness. N. H. Morgan was chosen first president, and Henry Kellogg, who drew the charter, selected the corporators, and really formed the company, secretary.

Unlike its elder brothers, the Hartford and Aetna, the Phœnix did not pass through a prolonged period of infancy, but by a few stalwart bounds leaped into the strength and responsibilities of manhood, for at the outset its guiding spirits brought to the work the skill and experience acquired in long-established schools, and were thus able to render immediately available the stores of knowledge accumulated by experts during forty years of underwriting. According to custom the

directors called for an installment of ten per cent. in cash, and took the notes of the subscribers for the balance. On the 15th of June, 1855, a dividend of \$20,000 was endorsed on the stock notes, and six months later a second of equal amount was similarly applied.

But the exigencies of the situation did not permit the delay required to pay the stock notes out of profits, even at the rate of ten per cent. semi-annually. Numerous failures among fire insurance companies gave rise in various quarters to more stringent legislation, and several of the States passed laws permitting only those whose capitals were fully paid in cash to do business within their borders. Accordingly, on the 25th of February, 1856, the directors voted to call in the remaining 70 per cent., and by the 28th of March the money was all in the treasury.

Simeon L. Loomis, an underwriter trained in the *Ætna* under Mr. Brace, was elected president June 27, 1855, and, being a master of all the intricacies of the profession, commanded the confidence of his associates while pushing into new territory with a vigor that, guided by less intelligent foresight, might have passed for rashness. At his death in August, 1863, the office passed into the hands of Henry Kellogg, who presided at the birth of the company, and whose life efforts have been devoted to its success. The business grew rapidly, and was profitable. Five years from the date of organization the capital was doubled, one-half of the addition having been contributed in a stock dividend from profits, and the other half by cash subscriptions. In 1864 the capital was increased to \$600,000 by an issue of shares at par. The progressive policy of the managers was reflected back in a large increase of premium receipts, which rose from less than \$600,000 in 1864 to over \$1,100,000 in 1866, and which were afterwards pushed steadily upwards, till, in 1888, they reached \$2,345,857.12.

In 1871, the *Phœnix* had accumulated over \$1,900,000 of solid assets, which enabled it to pay in full at Chicago losses, under 280 policies, amounting to \$937,219.23. Marshall Jewell, a large stockholder and a director, happening to be in Detroit at the time, hurried thither to look after the interests of the company. A feeling of despair pervaded the city. Thousands of homeless people were encamped on the outskirts without money, without hope, and almost

without clothing and food. In a calamity so unlooked for and overwhelming, and hence so far removed from the hazards contemplated in the business of underwriting, the sufferers believed their policies to be practically worthless. Press dispatches laden with painful rumors deepened the despondency.

Soon after his arrival, Governor Jewell met E. J. Bassett, general agent of the *Aetna*, when both agreed that some decisive step must be taken at once to declare the resolution of their respective companies, and to turn into more hopeful channels the currents of popular feeling. On the morning of October 13th, they stood on the banks of the river, overlooking three thousand flame-swept acres, from which a mighty city had vanished. Around was a surging, sullen, half-crazed, despairing crowd, which seemed to feel that even the foundations of the earth were crumbling with the destruction of their fortunes. At this juncture Governor Jewell, mounted on a dry goods box, with a smile in itself a benediction, announced that the *Phoenix* would pay all losses in full, and offered to draw his check on the spot for any claim approved by H. M. Magill, general agent of the western department. Shortly policy No. 10,752 for \$10,000 was presented by Isaac C. Day, when as director, Mr. Jewell drew on the company for the full amount, less interest for two months—the term allowed for payment.

Though the remarks of Governor Jewell contained no suggestion of oratorical display, no other speech ever delivered in the Lake City compressed into a few words so much cheer and helpfulness, or changed so quickly and effectively the temper of the people. The draft bears date Oct. 13, 1871. Immediately the *Tribune* dropped from its window a huge placard, announcing that the *Phoenix* of Hartford had begun to pay its losses in full. As the news spread from one to another, the multitude cheered, and cried, and laughed by turns. From over-burdened hearts the vapors began to roll away, as even then the clouds of smoke were drifting from the scene, and, as if her baptismal name had been selected in anticipation of the event, both company and city rose from the ashes stronger than before.

A few feet from Governor Jewell, Mr. Bassett made a like announcement for the *Aetna*, and using a barrel head for a desk, drew his check on the company, dated Oct. 13, 1871, to the order of John

B. Drake for \$7,350, in full settlement of all demands under policy No. 34,382.

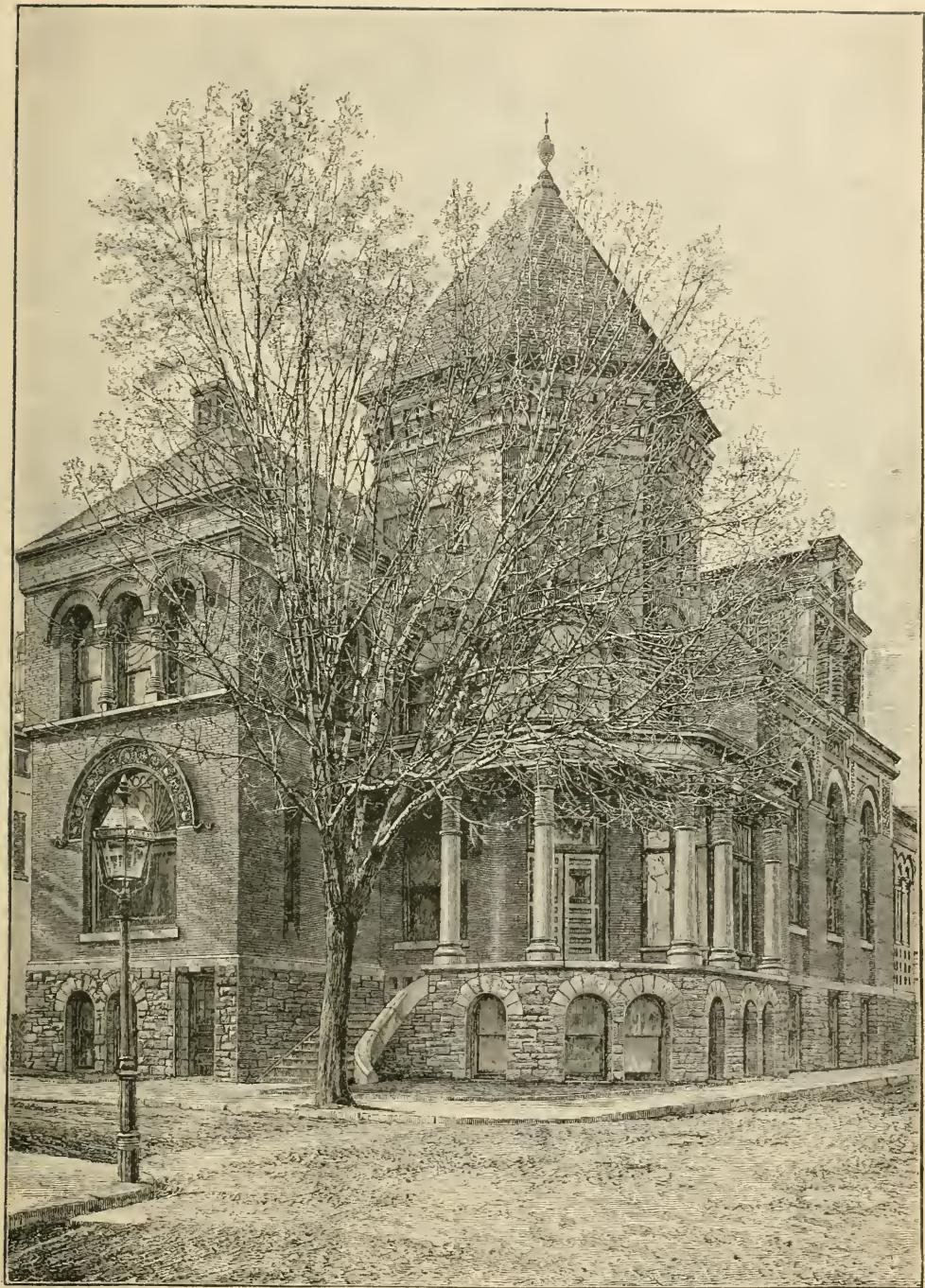
The 8th and 9th of October, 1871, are also memorable in insurance annals on account of the simultaneous forest fires in Michigan and Wisconsin, which drew from the coffers of the *Phœnix* \$50,176.73, making the total losses for the two days \$987,395.96, or one hundred and sixty-four per cent. on its capital stock. After meeting without delay these extraordinary demands, the company had nearly a million of assets left, but to repair the reserves required by law, the capital was reduced, December 1, one-half to \$300,000, and immediately restored through subscription of the stockholders. Although the Boston fire of Nov. 10, 1872, called for \$385,956.18 more, the burden was met without assistance from the shareholders.

The capital was increased to \$1,000,000 in April, 1876, and to \$2,000,000 in April, 1881. Since its organization it has paid nearly five millions in dividends and over twenty-four millions in losses, and now has assets of over five millions.

The supervision of Henry Kellogg as secretary and president covers the entire life of the *Phœnix*. Asa W. Jillson was elected vice-president April 23, 1864, and brought to the position a large acquaintance with manufacturing interests. He resigned from ill health, August 1, 1888. The secretaries have been Henry Kellogg, June, 1854–August, 1863; Wm. B. Clarke, August, 1863–November, 1867; DeWitt C. Skilton, November, 1867–August 1, 1888; George H. Burdick, since August 1, 1888. Mr. Skilton succeeded Mr. Jillson as vice-president, August 1, 1888. J. H. Mitchell was elected second vice-president, Sept. 11, 1888, and Charles E. Galacar, assistant-secretary, March 10, 1888.

THE CONNECTICUT FIRE INSURANCE COMPANY.

This institution was organized in 1850, with a strong directory under a perpetual charter. B. W. Greene, the first president, held the office till 1865, when he was succeeded by John B. Eldridge, till then the secretary. Like the Hartford and the *Ætna*, the Connecticut passed through a long novitiate, and like them, by stalwart strides, later on reached a secure place in the front rank of American companies. Beginning with a capital of \$200,000, mostly



THE CONNECTICUT FIRE INSURANCE COMPANY'S BUILDING.

invested in the notes of the subscribers, as was then the uniform local custom, it paid dividends with commendable regularity, but advanced slowly in accumulating riches, for at the end of the first decade its gross assets slightly exceeded \$230,000, though at the end of the second they rose to nearly \$400,000, progress, having been rapid after 1866. By a policy deliberately adopted and consistently pursued, the management restricted the operations of the company to non-hazardous risks, subordinating ambition for large receipts to desire for safety. For similar reasons, agencies were planted with caution, and chiefly in towns with well-equipped fire departments. Although bringing an excellent reputation and solid prosperity, the prevision that long avoided extraordinary perils served to paint in stronger contrast the overwhelming misfortune of 1871, at Chicago. In that fire, the losses of the Connecticut considerably exceeded its entire assets, but its representatives settled all claims, thus preserving a valuable charter.

Underwriters were taught by the hard lesson, that the day of small companies had gone to return no more, and accordingly, after the removal of the *débris*, the Connecticut reorganized with a fully-paid capital of \$500,000. A year later, the Boston conflagration called for \$120,000, but within a few weeks the premium income more than repaired the loss.

In 1873, M. Bennett, Jr., secretary since 1865, was elected president, and Charles R. Burt, secretary. Mr. Bennett retired in 1880, and was succeeded by J. D. Browne, then secretary of the Hartford fire insurance company, who now holds the office. L. W. Clarke, president of the Meriden fire insurance company, became assistant secretary. In 1876, the capital was increased by cash subscriptions to one million of dollars.

The home office of the Connecticut is one of the most notable structures in the city, combining beauty and utility to a degree rarely attained. The location at the corner of Prospect and Grove streets, within a block of State House Square on the north, and Main Street on the west, is central, quiet, and in every way desirable. It is built of brick, brown-stone, and terra cotta, after the Byzantine style of architecture, fifty-eight by one hundred and twenty feet, two stories in height, with an hexagonal tower of three stories,

every part of which is utilized. The general office, forty by forty-five, with ceiling twenty feet high, lighted and ventilated on three sides, is not only admirably adapted to the present requirements of the business, but will answer equally well, when its magnitude shall have expanded four or five fold. Directly in the rear of this is placed the steel vault, twenty feet square on the floor, and twenty-two feet high, so arranged with galleries and light stair-cases as to afford a maximum of available and easily accessible space. Underneath is a second vault of equal length and breadth, which will ultimately be needed for storage purposes. The vestibule, the rooms of the directors and president, and the large clerical room, all finished in hard woods, are models of quiet elegance. The company occupy the entire building, and all the supplies of a large insurance company can be prepared for shipment within its walls. Built upon land advantageously purchased at a time when the cost of material and labor was low, the enterprise has proved profitable in giving every desirable convenience at the equivalent of a small rental.

Since the date of reorganization, in 1871, the history of the Connecticut is the record of continuous and uninterrupted progress, which, though bare of dramatic incidents, is of a kind to bring contentment to patrons and solid satisfaction to shareholders. In 1877 the assets were \$1,388,313, the premiums \$356,815, and the investment earnings \$76,460; in 1882 the several accounts had grown to \$1,781,626, \$713,-446, and \$81,787, respectively; and in 1888, six years later, to \$2,260,-917, \$1,020,022, and \$100,054.

From the books it appears that during the period its premium receipts have nearly trebled; that its assets have increased eight hundred and seventy-two thousand dollars, and its investment earnings thirty-three per cent., notwithstanding the tendency to reduced rates of interest, and the further fact that the stockholders have received meanwhile nine hundred and sixty thousand dollars in dividends. Although the dividends seem large in the aggregate, they have, during the past five years, been drawn wholly from the income of assets, besides leaving a balance of \$68,850 from this source as a contribution to the reserves. All the profits from the insurance department proper have been used to fortify the strength of the company.

The Connecticut has agencies in nearly every State and Territory

of the Union, and also in the Dominion of Canada, where a deposit of \$100,000 is required. Abram Williams of Chicago, is manager of the western department, and Robert Dickson of San Francisco, of the Pacific department—both conservative underwriters of long experience.

THE NATIONAL FIRE INSURANCE COMPANY.

The National Fire Insurance Company, though of recent origin, came of royal lineage, for it succeeded the Merchants under circumstances which gave it a commanding position and a prosperous business from the start. The history of the two is intimately connected and highly honorable to both. The Merchants began with a capital of \$200,000, fully paid in cash, having been the first company in the city to set the example and to repudiate the old custom of building on a foundation of stock notes, with a small installment in actual money. At the first meeting of the directors, July 7, 1857, Mark Howard was elected president, and E. Thomas Lobdell secretary, a position which he held till his death, Jan. 23, 1871, when James Nichols, general agent of the company, was unanimously selected for the place. Besides paying to the stockholders dividends at an average rate of over ten per cent. a year, the Merchants steadily increased in strength till, at the last annual meeting in May, 1871, the cash assets reached \$580,270.71, and the shares readily brought \$240 each in the market.

In October came the Chicago fire, with losses of \$1,075,643—over five times the amount of its capital, and nearly half a million in excess of its entire assets. Payment in full was clearly impossible. In an emergency that put virtue to the severest test by suggesting many fair reasons for adopting a less unselfish course, the directors, under the lead of the executive officers, decided that no attempt should be made to compromise with the sufferers in Chicago, or to save a single penny from the wreck. Every dollar was turned over to the policy-holders, to be distributed pro rata among creditors. While an institution of splendid promise was thus engulfed in the fiery tempest, the managers emerged with a record many times more valuable commercially than any salvage which the sharpest settlements could have secured.

Under a charter granted in May, 1869, but till then unused, the

parties interested in the Merchants' proceeded to form the National fire insurance company, deeming it better to give up the old organization, with its honorable history and good name, than to contend with the complications liable to arise from the unpaid balances at Chicago. Oct. 18, 1871, ten days after the outbreak of the great fire, the books were opened, and \$608,000 were subscribed on a call for \$200,000, a notable proof both of the unconquerable resolution of the community and of confidence in the men who were to conduct the affairs of the new company. At the first meeting of the stockholders, November 27, the directors of the Merchants, with few changes, were made directors of the National, and it was voted to increase the capital to \$500,000. On the same day the board unanimously elected Mark Howard president, and James Nichols secretary.

Mr. Howard, who passed from us Jan. 24, 1887, beloved and lamented by a wide circle of friends, was an influential force in introducing scientific methods into the system of underwriting. For forty years in the business as local agent, special agent, and president, he inspired the instruction book issued in 1848 by the Protection, where for the first time appear definitions of insurance terms, and which covered the field so thoroughly and comprehensively that all subsequent literature pertaining to the subject has drawn largely from its pages. A man of strong convictions and lofty ideals, he never temporized or lowered the standard of duty to the uses of expediency. While it is generally held to be impracticable for ordinary mortals, amid the complexities of business, to follow, except at a distance, the stern and self-denying methods pursued by this type of character, all are encouraged to high aims by such examples.

During the first eleven months of business the National increased its assets to \$623,000. Then followed the Boston fire with losses of \$161,000. To meet the emergency the capital was reduced to \$350,000, and at once restored to the former figures by subscriptions of the shareholders. From that day on its success and growth have been uninterrupted. In 1878, the contribution for Boston was in part returned in a stock dividend of \$100,000 from net profits, and in 1881, the capital was further increased to \$1,000,000 by cash subscriptions.

The National has never failed to pay semi-annually its regular

cash dividend, and, with a single exception, has added each year to the volume of its assets. Stockholders have received on an average nearly 13 per cent. per annum on the investment, and on the 1st of January, 1889, the gross assets were \$2,326,581, with a net surplus of \$507,126.

In January, 1887, James Nichols, secretary of the National from its organization, and also of the Merchants before it, was elected president, a sufficient guaranty of the continuance of the policy under which the institution has attained eminent success. In the following May, E. G. Richards of Boston, an experienced underwriter, was made secretary.

In January, 1888, the National reinsured the Washington fire and marine insurance company of Boston on all their business throughout the United States, except in Connecticut, New York, Pennsylvania, New Jersey, Delaware, and Maryland; established a western department at Chicago, in charge of Fred S. James as general agent; and reorganized and enlarged the Pacific department, placing it under the management of George D. Dornin, with headquarters at San Francisco. The transaction added to the books of the company a large amount of good business, guarantying a large and permanent increase of premium receipts.

ORIENT INSURANCE COMPANY.

Although the charter of the Orient was granted by the legislature of Connecticut in May, 1867, the company did not organize until Nov. 23, 1871, being the lineal successor of the City fire insurance, which, with most of its contemporaries, was blotted out of existence in the holocaust at Chicago. By the terms of the charter, a capital of \$2,000,000 was authorized, with the privilege of doing business on a minimum of \$500,000. In view of the enormous drafts upon the resources of Hartford required to pay the losses at Chicago, the corporators thought best to begin with half a million, and to increase afterwards as the growth of business might demand. The first officers were Charles T. Webster, president; Selden C. Preston, vice-president; and George W. Lester, secretary; these gentlemen having held similar positions in the City Fire, whose agency system the

Orient proceeded to adopt. On its demise, the City fire insurance company distributed its entire assets among creditors.

January 1, 1872, the first policies were written, and a handsome business was assured from the outset. Ten months later came the Boston fire, which took \$164,000 from the Orient, a very heavy blow to befall a small company at the beginning of its career. However, it met every obligation by sight drafts, paying all losses in full.

In April, 1881, with the view of establishing a broader basis for future growth, and providing absolute security for its patrons, the shareholders voted to increase the capital to \$1,000,000, thus rounding up the list of millionaire fire insurance companies in Hartford. Our people, who, from long familiarity with large figures in insurance, have ceased to think of small concerns as having any rightful place in the hazards of the business, will more fully appreciate the solidity of their own institutions by recalling the fact, that outside of this city there are but eleven American companies whose capital equals the capital of their youngest. Under the laws of different States regulating reserves, surplus accumulations above certain sums can be divided or otherwise disposed of to suit the inclination of shareholders, but whether losses are small or large, capital must be kept unimpaired. Hence, in part, comes the superior security offered to policy-holders by large institutions like the Orient in times of exceptional disaster.

The presidents of the Orient have been Charles T. Webster, Dec. 19, 1871–May, 1874; Selden C. Preston, May, 1874–May, 1883; John W. Brooks, May, 1883–May, 1886; Charles B. Whiting, since May 5, 1886.

The present officers are, Charles B. Whiting, president; James U. Taintor, secretary; and Howard W. Cook, assistant secretary,—all underwriters of experience. The company has a western department with headquarters at Chicago; one on the Pacific coast with an office at San Francisco; and a southwestern department, with an office at Dallas, Texas. It is carefully but energetically extending its agency system, and, though the youngest in the Hartford fraternity, promises to keep step with its elder brothers in growth, prosperity, and usefulness.

HARTFORD COUNTY MUTUAL FIRE INSURANCE COMPANY.

This institution was incorporated in May, 1831, and on the 19th of the following September, at a meeting held in the State House, David Grant was appointed president, and Elihu Phelps secretary and treasurer. In less than a month, Mr. Phelps resigned, and was succeeded by Charles Shepard.

At first, the scheme embraced in its scope little more than a friendly combination of neighbors for mutual protection against losses by fire. A small premium was turned into the treasury by each member, together with a note pledging the maker to a liability of twenty fold the cash payment. It was the evident intention of the corporators to meet claims by assessments on the notes, very much as certain associations now insure the lives of the members by levying a tax on each one, whenever a death occurs in the ranks. The underlying idea is the same, except that the assessments in the modern guilds are generally definite and uniform, while in the early mutuals they were to vary with the amount at risk.

The Hartford County began modestly, and after disbursing \$12 in losses, and \$179 in contingent expenses, had a surplus of \$12 at the end of the first twelve months. For the next eleven years the business grew slowly, and at each annual meeting the books showed a small balance on the credit side of the ledger. In 1842, however, came a turn in the tide. Losses mounted up to \$3,269.14, and at the close of the fiscal year, in December, the directors were confronted with a deficit of \$362.11. Matters seemingly trivial have often proved to be pivots on which the fate, not only of nations, but of civilization itself, has turned. So of this deficit. It provoked earnest thought and much discussion. Some advocated an assessment. Mr. Shepard took ground in favor of borrowing the money and raising the cash rates to a remunerative basis. Already the theory which prevailed at the outset, and which in many changeful forms has been revived and discarded since, had proved its insufficiency. The sensible views of the secretary were approved, and a note for the arrearages, presumably indorsed by the officers, was discounted at the Hartford Bank. From current receipts the obligation was soon discharged, and the company has never been compelled by reverses to pass through a similar experience since.

September, 1844, Mr. Shepard was made president, James Ward treasurer, and R. Augustus Erving secretary. At the annual meeting, in justification of the policy advocated by him in 1842, Mr. Shepard was able to point to a cash balance of \$1,995.

Oct. 8, 1853, Mr. Erving was succeeded by his brother, D. D. Erving, having resigned to accept the position of secretary of legation under Ex-Governor Thomas H. Seymour, then recently appointed minister to the court of St. Petersburg. Having spent a number of years in Russia, he was lost with the steamer Pacific on the voyage home. At the death of Mr. Shepard, D. D. Erving became president, July 23, 1867, and Wm. A. Erving secretary.

On the morning after the great Chicago fire, residents of the city did not know whether the policies on their property issued by stock companies were worthless or not. Of the solvency of the Hartford County Mutual they were certain, for it did no business beyond the boundaries of Connecticut. Many came in at that time to take advantage of the protection it offered, and have since remained upon its books.

Having accumulated over \$200,000 in solid assets, the company voted, in 1879, to reduce the premium lien, on which assessments could be levied, ninety per cent., making it only twice the amount of the cash payment, and thus practically eliminating the element of contingent liability. Since 1880, by virtue of additional powers then granted by the legislature, the company has inserted in all policies, without extra charge, a clause insuring against damage by lightning, whether fire ensues or not. On the first of January, 1889, it had in force, all in Connecticut, 14,752 policies, with \$23,246,504.75 at risk, and with \$407,821.87 of well-invested assets to protect the liability. It had then distributed to the people of the State \$609,972.66 in payment of losses. The rates are low, and the amounts written generally small, the premiums averaging from seven to eight dollars.

D. D. Erving died August, 1873. Later presidents have been, Julius Catlin, September, 1873, to September, 1874; Walter H. Havens, September, 1874-'76; James B. Shultas, September, 1876-'80; Wm. E. Sugden, since 1880. Present officers, Wm. E. Sugden, president; James L. Howard, vice-president; and William A. Erving, secretary. Office, northwest corner of Main and Asylum Streets.

STATE MUTUAL FIRE INSURANCE COMPANY.

This company commenced business in October, 1867. On Jan. 1, 1889, its gross assets, exclusive of premium notes, amounted to \$46,831.38.

Ralph Gillett, president; Isaac Cross, Jr., secretary.

FACTS AND INFERENCES.

From the story of the marvelous growth of fire insurance in Hartford, one might hastily infer that the prosperity of the companies has been secured by the imposition of excessive rates. Such conclusion is wholly unwarranted. During the long period of infancy, both the Hartford and the *Ætna* were several times brought to the edge of the grave by unexpected calamities, and were saved only by the indomitable courage of officers and owners. After each of the great fires prior to 1871, more careful methods were introduced, till at length the belief became common that no strong and conservative company could be dangerously involved in any single disaster. Yet, within the period of thirteen months and a day, the Hartford, *Ætna*, and *Phœnix* were called upon to contribute to policy-holders in Chicago and Boston \$9,162,765.73, or over one hundred and ninety-nine per cent. on an aggregate capital of \$4,600,000. Payments by other local companies swell the above figures to a total of over twelve millions of dollars—an almost incredible sum to be taken from a town of thirty-eight thousand inhabitants in so short a time, in addition to the ordinary losses incident to the business. Pecuniarily Hartford suffered more than either Chicago or Boston, though the enormous drafts upon her accumulations were in part made good by exceptional profits during the next few years.

Some stockholders in the Hartford, Connecticut, National, and Orient, may be surprised to learn that their dividends are drawn exclusively from the income of assets, and that whatever profits accrue from premium receipts go to swell the reserves, and thus equip the companies to meet extraordinary disasters, liable at any time to occur. The Connecticut and Orient keep the dividends they pay considerably within the dividends they receive, while the *Ætna* and *Phœnix*, with their large capitalization, draw to a small extent on current profits. With these exceptions, all moneys paid by policy-holders are

either returned in the settlement of losses, or, after defraying the expenses of management, go to strengthen the security of the insured.

Statistics prove the need of strength. Since 1860, six hundred and forty-five American companies, representing over eighty-nine millions of capital, have either failed or retired from the field. Although, as corporations, supposed to be endowed with the attributes of immortality, yet most of them, like man born of woman, are "of few days and full of trouble." Survivors continue to live only by strict adherence to scientific methods. Any material and persistent deviation on the wrong side of the line must, in time, lead even the largest to inevitable bankruptcy.

In the modern industrial system, becoming continually more complex and interdependent, insurance is as essential to the continuance of life, as the heart or lungs in the animal economy. The protection thus afforded is indispensable in enabling the manufacturer, the merchant, the farmer, the owners of the countless buildings which make our cities, to borrow on their properties. The policies issued by the institutions of Hartford enter as a vital element into one billion of actual or potential credits.

Unskilled hands should be commanded by enlightened public sentiment to leave the delicate mechanism severely alone. The instinct of self-preservation should lead the public to condemn with united voice the ever-recurring attempts of crude legislators, and still worse, of the freebooters of the lobby, to engraft pernicious sophisms upon the laws which regulate the business. As proved by experience, competition tends to reduce rates to the line of danger or below, while the value of a good name guarantees a full measure of indemnity to the insured.

BEGINNINGS OF LIFE INSURANCE IN HARTFORD.

James L. Howard was the first person to call the attention of the people of Hartford, at least in any effective way, to the claims of life insurance. In February, 1846, he took out policy No. 1079 in the Mutual Benefit of New Jersey, and the same year accepted an agency from the company. He was soon successful in impressing his

views upon a number of influential citizens, whose example in insuring, others followed.

In the counting-room of Governor Howard began the discussions which soon culminated in the organization of the Connecticut Mutual Life. Guy R. Phelps, the leading spirit in the movement, having been so impressed by the merits of the system as to take a policy from Mr. Howard. Elisha B. Pratt, another of the founders, was not only brought to share the same view, but he was probably the first to suggest the expediency of forming a local company and thus keeping the premiums at home.

It was a new subject, and the vigorous presentation of the affirmative side provoked a good deal of curious opposition. Some good people argued that the scheme was irreligious in substituting reliance upon human instrumentalities for trust in providence. A Baptist elder, noted for the boldness of his pulpit illustrations, in a sermon at an annual State convention, resolved to crush the pernicious novelty at a blow. Rising to 'a climax in denunciation, he said: "Suppose that Jesus, on His way to the Jordan, had met John among the foot-hills, and to the question 'whither goest thou?' John had answered, 'behold all these years have I trusted in the God of Israel, and have been sorely pressed by many troubles. Wist thou not that I go up to Jerusalem to get my life insured?' Would the church, my hearers, have outlived the few and feeble days of infancy had treachery so foul been permitted to occur and to pass unrebuked? If lack of faith was a sin then, it is a sin now. Avoid the snares of a perverse generation, and say to the tempter, 'get thee behind me, Satan.'"

Prejudice yielded surely, if slowly, before enlightened discussion, and the act which the good elder condemned as a sin is now regarded in many cases as a duty.

THE CONNECTICUT MUTUAL LIFE INSURANCE COMPANY.

The Connecticut Mutual Life Insurance Company is one of the original five whose history goes back to the beginning of the business in this country. Chartered in May, 1846, it was organized, and issued its first policies, in December of the same year, with Eliphalet A. Bulkeley as president, and Guy R. Phelps as secretary. Before the



THE CONNECTICUT MUTUAL LIFE INSURANCE COMPANY'S BUILDING.

subject had attracted much attention, and while its true theory was very imperfectly understood, Dr. Phelps, the chief promoter of the enterprise, from personal inquiry and reflection, came to appreciate the need of insurance, and to foresee its importance and value to the people of this country. To his good sense and judgment it is due that this company, intended to meet a great public necessity, was organized on a purely mutual basis, the policy-holders owning all the property, getting the benefit of all savings, and managing affairs themselves through a body of directors chosen annually from their own number. The principle of strict mutuality and equity among the members has controlled from the beginning, and on suitable occasions the company has not failed to manifest its hostility to schemes for the unfair distribution of benefits, or which are not plainly grounded upon justice. In seasons of intense competition the anxiety for new business, which in many quarters has hatched in fertile brains broods of plans that appeal to selfish expectations of superior advantages to be gained through the weakness or misfortune of associates, rather than to principles of equity, has never for an instant exerted the slightest influence in turning the managers from their course. Upright aims, pursued with simple means and rigid economy, have characterized the policy of the management.

Dr. Phelps was secretary until 1866, and then president until his death, in 1869. James Goodwin, a man of rare financial abilities, succeeded Mr. Bulkeley as president in January, 1848, and, with an interruption of three years, from 1866 to 1869, during the incumbency of Dr. Phelps, held the position until his death, in 1878. Jacob L. Greene was chosen secretary in 1871, and president in 1878, and still fills the office. To the great abilities, energy, and self-devotion of these three leaders the remarkable success of the company has been chiefly due.

Starting without funds, save a guarantee of \$50,000 for the protection of the insured during the first few years, the company had accumulated at the end of 1858 assets amounting to \$3,000,523.47, although meanwhile it had distributed among policy-holders \$3,957,824.57. At the end of 1868 it had increased its assets to \$23,500,008.47, and its payments to policy-holders to \$15,063,666.53. In 1878 its assets reached \$48,179,128.34, and payments to policy-holders \$76,014,692.11.

In the forty-three years ended Dec. 31, 1888, it had—

Received, for premiums,	\$155,424,036.97
from interest and rent,	58,426,794.34
balance profit and loss,	685,110.45
	<hr/>
	\$214,535,941.76
Disbursed to policy-holders,	\$134,162,485.15
for expenses,	18,065,501.57
for taxes,	6,455,055.17
balance <i>net</i> assets,	55,852,899.87
	<hr/>
	\$214,535,941.76

The average expense of creating, handling, and distributing this great business has been but 8.4 per cent., a degree of economy hitherto unattained by any other company, and still less likely to be reached in the future. It is less than half the ratio of American, and but little more than one-half the ratio of English and Continental institutions, despite their traditional conservatism. With the tendency to the centralization of the business in large and wealthy cities, where the cost of management is in many ways enhanced, this item will continue to grow in relative importance. How much has been received, how much judiciously invested, and how much paid out for conducting operations, are the most vital questions involved in the practice of life-underwriting. Moneys held by life insurance companies are trust funds, and should not, under any circumstances, be subjected to any expense beyond a fair cost for care and investment, and a proper outlay for maintaining a suitable volume of business in force.

The Connecticut Mutual is peculiarly strong, not only in solid assets, but in a conservatism of policy, the wisdom of which will become more and more apparent with the lapse of time. Its premiums and reserves upon risks taken since April, 1882, are computed on the assumption that before the liabilities mature, safe investments cannot with certainty be depended upon to yield a yearly net income of over three per cent. instead of four per cent., the basis heretofore required in prudent legislation and estimates. When taken, the step, quite at variance with the prevalent tendency, provoked, in certain quarters, acrid criticism, but its justification is coming more quickly, perhaps, than its advocates foresaw. Within a decade, able economists have written elaborate papers to prove that for a generation,

at least the annual rate of interest in the United States, except for short and transient intervals, could not fall below six per cent. The arguments were based upon the extent of our undeveloped and partially developed territory, the tireless energy of our people, and the enormous sum certain to be required both for the enlargement of old and the initiation of new enterprises. In reality, capital increases much more rapidly than the demand for it in safe investments. For many months at a time, call loans on the best security have ranged from one per cent. to a fraction above, the best State bonds yield barely three per cent., and government bonds still less. Nothing but a long and destructive war can arrest even temporarily the downward movement. In view of the further fact that life insurance contracts, in many instances, will run forty, fifty, or sixty years, and that every one kept in force must ultimately be paid in full on penalty of bankruptcy, it is easy to see that all similar institutions, to meet remote obligations, must follow in practice, if not avowedly, the example first set by the Connecticut Mutual.

On the highly improbable assumption, that the destruction of capital in wasteful wars should restore, for a long period, former rates of interest, and thus postpone the necessity for revising the tables of cost, patrons of the company would reap the entire benefit in the way of larger dividends. In case the accumulation of wealth, with the attendant decrease of income, goes on without interruption, they are fully protected, and in case the natural order of economical development is suspended or temporarily reversed, they lose nothing by the changes introduced in preparation for the seemingly inevitable.

The profits of the Connecticut Mutual inure wholly to the benefit of the insured.

It has no special class of policy-holders who are to get the dividends earned and forfeited by others.

The surplus earned is returned each year to those who have contributed it, and is not held to be divided only at the end of a period of years, among the survivors, as a speculation.

Every policy-holder is therefore sure of getting his insurance at its actual cost, year by year.

It selects its risks with great care, and in the healthy sections of

our own country only. Its actual losses by death have been only eighty-five per cent. of those indicated by the tables of mortality.

It does not increase its commissions on new business to enable agents to compete by "throwing off." On the contrary, it has on certain lines reduced commissions. It seeks new business only at such a cost as will enable it to continue to give insurance at as low figures as heretofore, so far as the fall in the rate of interest will permit.

It maintains its old-time economy and carefulness in all things, elements that will affect future dividends and the cost of insurance more and more, as the income from investments gravitates downward.

In the management of assets, critical attention is given both to security and productiveness. It does complete equity, wronging no member and favoring no member at the expense of others. Its conservative basis for future solvency—the three per cent. reserve—benefits members who are unfortunately compelled to withdraw, by adding proportionately to the amount of paid-up insurance, or to the cash sum paid on surrender.

Each policy now issued provides, that in case of lapse after two or three premiums are received, it is fully paid up for an amount stated upon the policy itself, and which is the full amount the entire reserve will buy, less a small surrender charge.

Each policy now issued may be surrendered at the end of ten years, or five-year periods thereafter, for a cash sum stated in a table printed thereon, thus giving to every member, at convenient intervals, the option of withdrawing from the association and taking his share of the reserve.

Each member will get all he pays for, and nothing of what any other member pays for. No one is made to lose because he cannot continue paying, and no one else gains at his expense.

Incidentally, much has been accomplished by the company in working out solutions of the various problems of life underwriting in this country, and in providing a body of knowledge and a number of trained men for the benefit of newer organizations, whereby its influence has been diffused and will be perpetuated. When the history of life insurance in America is fully written, many of the most im-

portant and instructive facts will be supplied from the records of the Connecticut Mutual.

The present officers are Jacob L. Greene, president; John M. Taylor, vice-president; William G. Abbot, secretary; Daniel H. Wells, actuary; and George R. Shepherd, M.D., consulting physician.

THE AETNA LIFE INSURANCE COMPANY.

The year after its incorporation, in 1819, the *Aetna* (Fire) Insurance Company obtained an amendment to its charter, authorizing it to



THE AETNA LIFE'S BUILDING.

grant annuities, upon an additional capital not exceeding \$150,000, to be held as a separate guaranty for the liabilities arising under the business. The privilege was never exercised. In 1850, by a second amendment, the ancillary company was empowered to grant insurance upon lives, and thirty years after the inception of the original plan, organized as the *Aetna* Insurance Company Annuity Fund. Rights to subscribe were distributed among the owners of the parent company in proportion to their holdings. Officers of both were the same, certain directors, with Eliphalet A. Bulkeley as chairman, having been delegated to manage the affairs of the new department.

After a brief experience, it was thought best that the control of the two institutions should be made separate and distinct, and accordingly, in 1853, by still another amendment to the charter, the child was launched on its independent career under the name of the *Aetna* Life Insurance Company. E. A. Bulkeley was chosen president, and John W. Seymour secretary. In 1858, Thomas O. Enders, who had been employed in the home office since 1854, became secretary.

During the first decade of its existence the company developed slowly. It will be remembered that a period of long, and at times severe, financial depression preceded the war—a condition that bore

heavily upon new enterprises, and brought to both new and old widespread mortality.

Till 1861, all contracts for insurance made by the *Aetna* Life were written on the proprietary plan. It then began to issue participating policies, and established a mutual department under the same control, but with entirely distinct books, accounts, and investments. Since then applicants have had their choice between the two methods. Till 1868, patrons on the mutual side were allowed to pay a part of the premiums by note, a system once quite popular, but under plans then matured all subsequent contracts have required payments in cash.

One of the first effects of the war was to aggravate the depression previously existing. As it went on, and issues of paper currency stimulated speculation and extravagance not less than legitimate business, the life companies already in the field soon began to profit from the changed conditions. Large numbers of men rushed into hazardous ventures, and amid the uncertainties of their private affairs, made provision for their families by taking out heavy lines of insurance. Others of more prudent habits were influenced by the example to investigate the merits of the system, and to avail themselves of the same protection. Inquiry could not fail to satisfy the mind that the principles were sound, or that any well managed company must always be in a position to meet maturing obligations. The sudden popularity of life insurance was due partly to more urgent need of its benefits, and partly to more thorough comprehension of the subject.

Nowhere is the greatness of the change in the attitude of the public toward life insurance more clearly reflected than in the records of the *Aetna*. In 1863, thirteen years from the date of organization, its assets amounted to \$310,492. In 1866, they had risen to \$2,036,823. The impetus then given to the development of the company was stimulated and multiplied by the energy of the management. Its subsequent growth in resources and surplus, in reputation and popularity, has never for an instant been checked by adversities of any nature, or troubles from any quarter. It has been singularly fortunate, too, in avoiding the errors of judgment which intelligence and prudence may, without discredit, be expected to make under the law of averages. In 1868, its assets had increased to \$7,538,612; in 1878, to \$24,141,125; in 1888, to \$32,620,676.

On January 1, 1889, it had 67,749 policies in force, insuring \$102,904,303.44. It had received from all sources, \$116,980,144.41. It had paid for claims by death and endowments, \$37,106,280.60, and in dividends to policy-holders and surrender values, \$30,135,848.21. Its assets reached \$33,819,034.97, and its surplus, as regards policy-holders, to \$5,566,055.24, on the basis of 4 per cent. reserve, and to \$7,325,000 on a $4\frac{1}{2}$ per cent. basis.

Success far transcending the dreams of the founders, and on the whole perhaps unequaled in the records of life insurance, either in Europe or America, is easily explained in the light of the facts. One of the postulates of the business demands that investments shall yield an annual income of four per cent., the excess being available either for immediate distribution among the insured, or for building up a fund held in reserve to meet claims maturing many years hence, when the rate of interest on approved security will certainly fall below that figure. The *Ætna* Life was a pioneer in loaning to western farmers, having entered the field under highly favorable conditions. At the time when its treasury began to be distended by the volume of inflowing premiums, the Illinois Central railway had a large number of outstanding contracts with settlers on their lands, agreeing to convey titles on payment of the purchase money. Both sides desired the completion of the contracts. At this juncture the *Ætna* Life came forward and furnished the needful funds, taking mortgages on the farms as security. All the early loans bore interest at ten per cent. The arrangement proved highly advantageous to both lender and borrower. The fertility of the soil attracted heavy immigration, with consequent enhancement in the value of the properties. While the company had abundant reason to be satisfied, thousands of farmers rose from poverty to wealth by the aid thus afforded them. As the region grew rich, and the loans were paid off, the company pushed westward into Iowa, repeating the process on the same terms. Employing only trained and faithful agents it seldom met with defaults, and when compelled to foreclose generally succeeded, by patience, in drawing a profit from the transaction. The perils of growing competition were met by increase of carefulness, one of the rules being to loan, in no case, in excess of the value assessed for taxation. At present the *Ætna* Life has about \$15,000,000 invested

in farm mortgages, averaging about \$1,500 each, and \$20,000,000 more have run through their term and been paid at maturity. On the small proportion of foreclosures the books show a balance on the credit side.

While loanable funds were much less abundant than now the *Ætna* Life also invested largely in the bonds of prosperous cities at the west, bearing 7 and $7\frac{3}{5}$ per cent. interest. On transactions involving many millions the losses were few and small. The surplus annually accruing from investments of extraordinary productiveness enabled the company to return generous dividends to the participating policy-holders, which in turn stimulated growth in new business, and added to the tide of inrolling premiums.

In economy of management the *Ætna* Life ranks with the first three or four on the list of American companies. With customary good fortune it lately acquired for \$231,000 the commodious and elegant building erected by the Charter Oak Life, at a cost of \$850,000, and valued by the special legislative commission at \$600,000. The home offices were transferred to the new quarters in the summer of 1888.

The present cash capital is \$1,250,000. The marvelous growth of the *Ætna* Life cannot be repeated in the future by any similar organization, because the conditions which rendered the process possible have passed, never to return.

At the death of Judge Bulkeley, in 1872, Thomas O. Enders became president, and at his retirement, in 1879, was succeeded by Morgan G. Bulkeley, son of the founder, and now Governor of Connecticut. The other executive officers are, J. C. Webster, vice-president; J. L. English, secretary; H. W. St. John, actuary, and Gurdon W. Russell, M.D., consulting physician.

THE PHÆNIX MUTUAL LIFE INSURANCE COMPANY.

Proceeding on the theory that total abstainers from the use of alcoholic drinks could safely be insured at lower rates than miscellaneous risks accepted without close regard to personal habits, a number of men, connected for the most part with the temperance reform, organized, in 1851, the American Temperance Life Insurance Company. Among the incorporators were, Barzillai Hudson, a prominent

leader in the crusade against alcohol; Benjamin E. Hale, editor of the "*Fountain*," a cold-water sheet; Thomas S. Williams, ex-chief justice of the Connecticut Supreme Court; Francis Gillette, a noted abolitionist in the formative period of the party, and for a year in the United States Senate; and others of similar stamp. Moved by strong convictions they gladly accepted an opportunity to subject their beliefs to a practical and perhaps decisive test. Accordingly, tables were prepared graduating the cost of insurance about ten per cent. below the current rates, and the issue of policies began. Had the scheme met with popular favor perhaps the correctness of the theory would have been demonstrated. However, persons interested in the cause of temperance did not hasten to seize the privilege, and others did not care to sign a pledge of perpetual abstinence in consideration of the discount. Solicitors found the restrictions placed upon the freedom of the individual an ever-present obstacle, blocking the persuasive force of their eloquence. Satisfied after a fair trial that, however correct the principle might be, the attempted application of it ran counter to the inclinations of human nature, the managers abandoned the temperance feature in 1861, conformed the rates and contracts to the common practice, and with legislative permission changed the name to the Phoenix Mutual Life Insurance Company.

Many of the risks taken under the original plan still remain on the books, and as a whole, have perhaps justified the opinions of the founders in regard to the greater longevity of those who entirely avoid spirituous drinks.

B. Hudson was the first president; Tertius Wadsworth, vice-president; and Benjamin E. Hale, secretary. At the end of two years Mr. Hudson was succeeded by Edson Fessenden, who retired in 1875, and was followed by Aaron C. Goodman, the present incumbent. In 1875, Jonathan B. Bunce became vice-president, and John M. Holcombe, secretary, both still filling those positions.

After the abandonment of the restrictive plan, which confined its efforts to a limited class, the company extended its operations with vigor. At one time it did a large business in the Southern States, but withdrew after a trial of about six years, having learned that the climate and conditions of life caused a higher rate of mortality.

Since its organization the company has received in premiums from

its policy-holders \$36,104,153.25. It has paid to beneficiaries on account of deceased policy-holders \$13,231,703.96, and in matured endowments \$2,499,099.96. In addition it has disbursed to the insured in dividends, surrender values, etc., \$12,508,050.43, making a total of \$28,238,854.35 returned to its patrons or their heirs. It now has \$10,587,353.45 in assets held for the protection of its outstanding policies. A large portion of these funds, for more than twenty-five years, have been loaned in various parts of the west, materially aiding in the development of the country, and yielding also a remunerative income. In return for its charter and such protection as the laws of the commonwealth are supposed to afford, it has paid in taxes to the treasury of Connecticut the sum of \$689,029.47—a handsome requital, certainly, for favors received.

The Phoenix Mutual is one of the solid and enduring institutions that have given to Hartford its reputation as the center of safe insurance.

THE CONNECTICUT GENERAL LIFE INSURANCE COMPANY.

The youngest life insurance company in the city, the Connecticut General, entered a field already crowded, not as a competitor of older institutions, but with the view of selecting at adequate rates from the risks which others rejected. Dr. Phelps, father of the Connecticut Mutual, was also the god-father of the Connecticut General, and proposed to further aid the infant enterprise with liberal slices from the excess lines of the parent company. The promoters reasoned, quite plausibly, that if fire-rates could be so adjusted upon all classes of property as to be remunerative, there could be no inherent difficulty in graduating the cost of insurance for impaired lives also. It was soon found, however, that the infirmities buried in the human system were too deceptive and variable to respond to any determinate law of averages. Moreover, applicants who failed to pass the standard examinations did not display expected alacrity in accepting the benefits of the new departure on the terms proposed. Each one's confidence in his own destiny is so strong that he must either suffer from "malaria," or be clearly nearing the grave, before he will admit that his chances of longevity are less than those of his neighbor. Happily the error in the theory was soon shown by the perplexities

encountered in attempts to apply it, and in two years the feature was abandoned and the business of the company thenceforth confined to first-class risks.

It is worthy of note that the Universal life insurance company, organized about the same time on the same theory, persisted in adhering to the plan, and paid the penalty a few years later by dying bravely in the last ditch.

The Connecticut General began business in September, 1865. In view of the extra hazards and unknown conditions to be met, the capital was fixed at \$500,000. When fifty per cent. of the amount had been called in, the abandonment of the original design removed the need of a larger sum, and accordingly, by act of the legislature in 1874, the capital was reduced to \$250,000, and again in 1880, to \$150,000, where it remains.

James S. Niles, president during the short period of organization, was succeeded by Edward W. Parsons, first vice-president. Thomas W. Russell, secretary of the company from its origin until then, was made president in May, 1876, and still fills the position.

Taught by the peculiar experience of the first two years, the policy of the managers has since been to do a thoroughly safe business, confining itself to the salubrious portions of our own country, and to well-approved plans of insurance. Its losses have always been paid promptly. Although one of the youngest, it is also one of the strongest companies intrinsically in the United States, the ratio of assets to liabilities, upon a four per cent. basis of reserve, being 132 to 100. Its funds, carefully invested in sound securities, amounted, Jan. 1, 1889, to \$1,841,696.70, with a surplus to policy-holders of \$469,477.81.

The officers are Thomas W. Russell, president; F. V. Hudson, secretary; E. B. Peck, assistant secretary; and M. Storrs, M.D., consulting physician.

HARTFORD LIFE AND ANNUITY INSURANCE COMPANY.

The Hartford Life and Annuity Insurance Company, chartered in May, 1866, under a different name, to do an accident business, began issuing life policies on the customary plans in August, 1867, having after a short trial given up the accident feature, on account of its supposed unprofitableness. After careful elaboration, the company,

early in 1880, adopted the system which requires policy-holders to pay only for the actual mortality among members as it occurs in quarterly periods. Applicants for insurance pay a single admission fee, which varies according to the amount required, but not with the age of the person. For collecting and distributing the funds, and all other expenses of management, a yearly charge of \$3 per \$1,000 of insurance is made, and the rate cannot be increased. The safety fund, which gives the system its name, is made up exclusively of contributions of \$10 per \$1,000, required of each member once only, and placed in the hands of the Security Company of Hartford as trustee for the policy-holders. At present it amounts to over \$600,000, and will continue to be augmented by payments from new members till it reaches one million of dollars, invested at face value in United States bonds. Semi-annually the entire net income from the fund must be divided *pro rata* among the holders of certificates in force, who, five years before or earlier, contributed to it their full share, and the dividends thus accruing are applied to the reduction of future dues and mortality-calls. When the fund reaches one million, the contributions from new members are semi-annually added to the income from it, when the entire surplus thus accruing is distributed in like manner.

The principal, placed by a deed of trust beyond the control of the company, remains at an even million, as a guaranty that death claims shall always be met in full, even if the membership for any cause be so reduced that stipulated mortality-calls fail to produce enough to satisfy the claims.

By mathematical computation the rates are so fixed that the amount of insurance in force must fall below one million dollars to cause an insufficient membership. Should such contingency occur, the trustee is required, from the principal of the safety fund, to pay all outstanding policies in full, without waiting for death to mature the claims. Had the condition arisen in the early stages of the venture, and before the accumulations were sufficient to meet all liabilities in full, the deed provided for the division of the fund *pro rata* among the holders of certificates in force. This is the only company in the country doing business on the assessment plan where an ample fund is built up to protect the insured against adverse possibilities liable to occur in the distant future.

Cash capital, \$250,000; outstanding insurance, over sixty millions; new business, about eleven millions per annum.

The officers are, Fred. R. Foster, president; H. A. Whitmore, vice-president; Stephen Ball, secretary; and A. T. Smith, superintendent of agencies.

MUTUAL BENEFIT LIFE COMPANY.

This company commenced business in 1869. On Jan. 1, 1889, its gross assets amounted to \$137,680.75.

Alfred R. Goodrich, president; DeWitt J. Peek, secretary.

NATIONAL BENEFIT LIFE ASSOCIATION.

This association commenced business March 26, 1888, and on Jan. 1, 1889, had assets amounting to \$69,817.85.

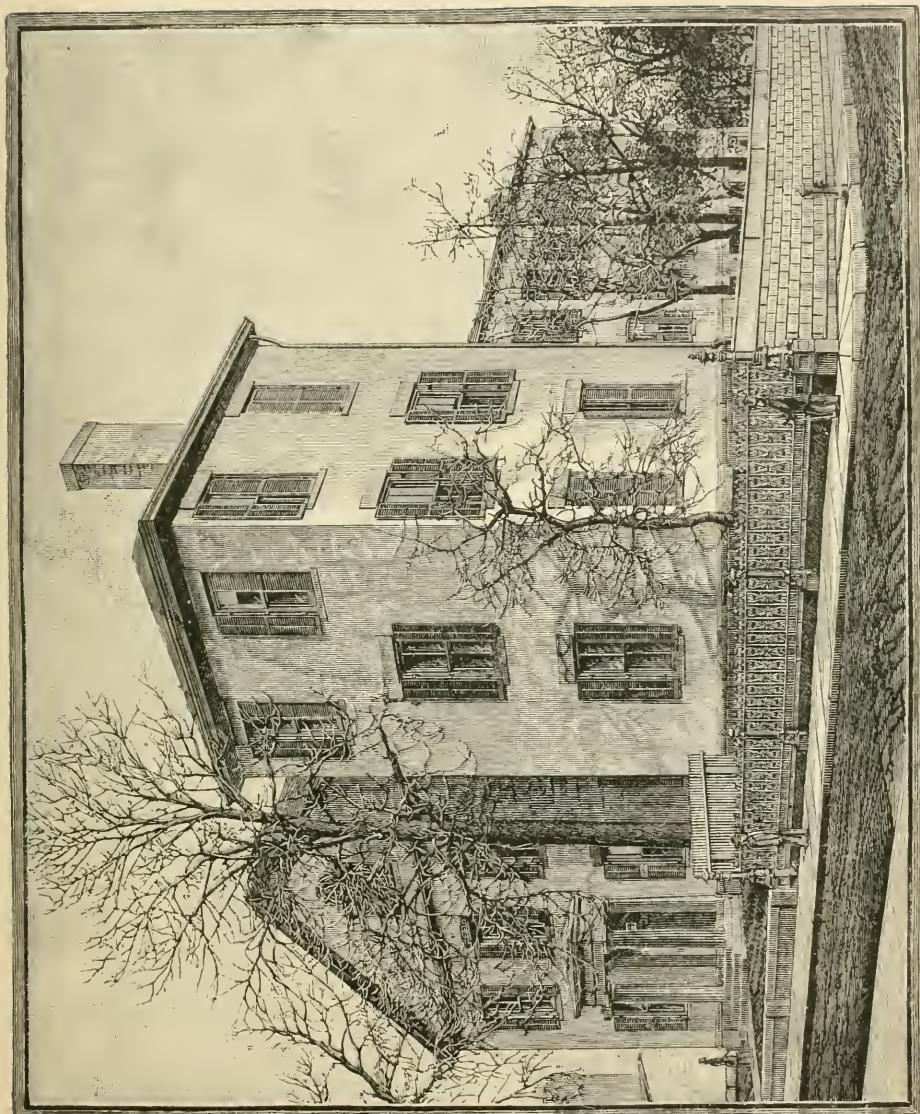
O. H. Blanchard, president; Eben E. Smith, secretary.

THE TRAVELERS INSURANCE COMPANY.

A quarter of a century ago, while traveling in Europe, James G. Batterson, of Hartford, became interested in the subject of casualty insurance, and after examining the methods pursued in England and on the continent, was convinced that the system could be advantageously transplanted into the United States. On his return home, the scheme was talked over with influential friends, but at first met with little encouragement or sympathy. However, the personal force of the projector, backed by arguments which grew in number and cogency as the discussion went on, began to win valuable converts, and the enterprise soon materialized in tangible form. Outside of the charmed circle skepticism still prevailed, but a nucleus had been formed, and a charter was secured in June, 1863. The new venture "of strange device," organized on a capital of \$300,000, was ready for business in April, 1864.

Borrowing the central idea from the Railway Passengers' Assurance Company of England, the Travelers was incorporated with power to insure "persons against the accidental loss of life or personal injury sustained while traveling by railway, steamboat, or other mode of conveyance." Finding the power granted too narrow, the managers secured an amendment in June, 1864, authorizing "all and

“HOME OFFICE” OF THE TRAVELERS INSURANCE COMPANY.



every insurance connected with accidental loss of life, or personal injury sustained by accident of every description."

Mr. Batterson was fortunate in inspiring with a full measure of his own enthusiasm Rodney Dennis, who took the secretaryship. To the substantial nucleus of president and secretary, were added in time several other young men who manifested capacity for the assimilation and mastery of complex details, and the gifts of all were put to a severe test in the early struggles of the company for existence. Severe labor, rigid economy, and especially quickness and accuracy in the interpretation of facts, carried the enterprise safely through the perils of infancy. Not a penny was wasted on superfluities. The first office, located on the second floor to save rent, was furnished with two chairs and a second-hand pine desk set on a cheap table. A carpet was an extravagance not to be thought of. For a while the officers did all the work alone, writing the letters, keeping the books, instructing agents in the mysteries of the craft, and running on errands for exercise. The first luxury to be introduced was an office-boy, who became assistant secretary.

For eight generations children have read with unabated interest of the pilgrimage of Hooker and his flock through the trackless forest, from Massachusetts Bay to the banks of the Connecticut, with only the compass and north star for guides. On starting into the wilderness the Travelers had the benefit of neither compass nor star. At home no one had gone before to cut a bush or blaze a tree, while the conditions underlying the casualty business in England differed so widely from those in America that the scanty generalizations formulated in tables by the pattern-company proved treacherous and misleading. From the bottom stone in the foundation to the flag-staff on the tower, the officers constructed as they went, without aid from architectural designs or preformed plans, necessarily making many mistakes, and costly mistakes, too—tearing down, changing, rebuilding, adding here and discarding there—till from a chaos of materials grew the present, solid, stately, and enduring edifice, the despair of rivals and the delight of friends.

No kind of business, and especially no branch of insurance, can be carried on with safety till its laws have been generalized from a

wide range of experience. In the case of the Travelers, it was necessary to get the experience and to deduce the governing principles simultaneously. The process of adjustment demanded frequent and radical changes in classifications and rates, introducing confusion into methods, annoying and losing patrons, and exciting in faithful agents ebullitions of sore displeasure. The knife of the surgeon was in constant requisition. Meanwhile, the executive officers did not sleep on beds of roses, at least till the small hours of the morning, for midnight often found them at headquarters, toiling over the solution of changeful problems, or anxiously discussing what should be done next.

The palpable benefits of the system, the disbursement over a wide area of many small sums to injured persons who fortunately held policies in the Travelers, the gratuitous advertising given to the business by its relations to destructive railway accidents, though productive of a copious inflow of premiums, damaged the company at a certain stage of growth in two ways. Men engaged in dangerous pursuits insured in large numbers before the actual cost of the hazard had been determined, and, in fact, bought indemnity much too low. Perils from this source passed away as enlarged experience enabled the officers to correct the tables. The other danger came from the opposite quarter, and though serious enough in the thick of the fight, now seems almost ludicrous, when viewed in connection with the mental conditions which preceded and followed in swift succession. Reversing the normal sequence of development, the age of skepticism yielded place to an age of faith, and before the doubting Thomases near home had ceased to hum, with a slight accent of derision, "what will the harvest be," a swarm of casualty companies, organized in 1865 and 1866, rushed wildly into the field. With ample powers of destruction all lacked the art of construction, and after emulating the feats of the historic bull in the china shop, sank one by one into unremembered graves, and though mourners were many, the only monuments of the departed are the death-records in the State insurance reports.

The company issues accident insurance tickets, chiefly sold at railway stations, running from one to thirty days, and covering general accidents on or off public transportation; and general accident policies, sold through agents, and running from one to twelve

months. "In case of death or loss of both hands, both feet, a hand and a foot, or the sight of both eyes, from such injuries alone within three months, the principal sum insured will be paid; if one hand or one foot is thus lost, one-third the principal sum; in all cases of total disability, weekly indemnity will be allowed up to a limit of twenty-six weeks. Policies are not forfeited by change of occupation, being paid in the same proportion the premium under the new exposure bears to that under the old."

Nearly all the concerns, organized in the sixties in imitation of the Travelers, also began to issue railway accident tickets, introducing such confusion into the business that the principal ones soon agreed to combine in the formation of a new company, intended to prosecute the work for their joint benefit under a uniform system extending over the whole country. Accordingly, in May, 1865, a Connecticut charter was procured for the Railway Passengers Assurance Company, which was organized the following year on a capital of \$250,000, contributed by the several corporations under the hegemony of the Travelers. Each had at least one representative in the directory. Headquarters were established at Hartford, and James G. Batterson was chosen president. By a singular fatality all the others found the losses from the residue of their business too great to be repaired by the dividends from their common offspring, and one after another perished by the wayside till the Travelers remained sole survivor, residuary legatee, and reinsurer of the rest. The occasion for its separate existence having passed, the company retired in 1878, having turned over its risks to the only living parent.

In 1866, under legislative sanction, a life department was added to the Travelers, and while the accounts are kept entirely distinct, both are under the same management. All policies are issued at low cost for cash, the element of participation and the margin that adorns it being entirely excluded.

Having outgrown rented rooms, the Travelers purchased, in 1872, the historic mansion at the northeast corner of Prospect and Grove streets, occupied, among others, by Oliver Wolcott, secretary of the U. S. Treasury under Washington, governor of Connecticut, etc.; Professor Charles Davies; Henry L. Ellsworth, commissioner of patents; Roswell C. Smith, manufacturer of school books; Isaac

Toucey, governor, secretary of the navy, etc. The structure has been remodeled and enlarged in the rear, making a commodious home office.

A very great proportion of the losses in the accident department of the Travelers come from the ordinary casualties daily occurring all over the country, which attract little attention beyond a limited circle; the large sums which the company is often required to pay to the injured and to the heirs of the killed, after notable disasters, making but a small fraction of its disbursements. Still, death-claims alone amounted to \$32,000 from the railway accident at Angola, January, 1868; to \$43,000 at Carr's Rock, April, 1868; to \$20,000 at New Hamburg, February, 1871; to \$13,000, steamer *Metis*, September, 1872; to \$52,000 at Ashtabula, January, 1877; to \$15,000 at Chatsworth, Ill., August, 1887.

At the time of the great conflagration, one hundred and eighty-one Chicago firemen held policies in the Travelers, and not one was injured, though over \$20,000 had previously been paid there on this single class of risks.

The *Travelers Record*, issued monthly from the home office, by giving wide currency to facts and arguments showing the benefits of casualty insurance, has aided materially in enlightening the public, and thus extending the business.

Jan. 1, 1889, the gross assets of the Travelers were \$10,382,781.92, with a surplus to policy-holders of \$2,041,210.41. It had paid policy-holders in the life department \$4,853,643.68, and in the accident department \$11,037,132.72, making a total of \$15,890,776.40. For the year 1888, the entire income of both departments was \$3,987,399.99.

Its executive officers are, James G. Batterson, president; Gustavus F. Davis, vice-president; Rodney Dennis, secretary; John E. Morris, assistant secretary; George Ellis, actuary; J. B. Lewis, M. D., surgeon and adjuster; Edward V. Preston, superintendent of agencies.

After the lapse of more than a quarter of a century, the organization remains essentially the same as at the beginning, little change having occurred in executive officers, or in the board of directors except from death.

THE HARTFORD STEAM BOILER INSPECTION AND
INSURANCE COMPANY.

In the year 1857, a coterie of young men in Hartford, drawn together by similarity of tastes, organized the "Polytechnic Club" with the view, primarily, of investigating and discussing questions of science in relation to the utilities of practical life. Among the members were Elisha K. Root, who succeeded Colonel Colt in the presidency of the armory, Francis A. Pratt, Amos W. Whitney, E. M. Reed, Professor C. B. Richards of Yale, Charles F. Howard, Joseph Blanchard, J. M. Allen, and others. Although few in number, they have, on different lines of effort, made a marked impression on the events of the period.

About this time Professor Tyndall threw out the suggestion incidentally in one of his lectures that the spheroidal condition of water on the fire-plates of boilers might be the cause of disastrous explosions. The hint, for it was scarcely more, became the text of frequent talks regarding the cause of such explosions and the best methods of prevention. Meanwhile, Mr. Reed, on returning from a European trip, brought home the results of late experiments conducted under the direction of Sir William Fairbairn. It also became known that the Manchester Steam Users Association had already been organized in England with the view of preventing boiler explosions by periodical inspection. Under the system as started there, the manufacturer paid a certain sum annually for the examination, receiving in return either a certificate of the safe condition of his boiler, or a report condemning it, but the certificate, like those in some places since issued by direct appointees of the State, involved no pecuniary obligation whatever, and if disaster occurred, the paper, while relieving the holder from the charge of carelessness, entitled him to no indemnity.

Although not one of the members of the Polytechnic Club was connected with insurance, the body unconsciously drew inspiration from the local predominance of the interest, which was then making Hartford famous as the home of skilled underwriters. In the course of the debates on the subject the attention of the young men was attracted to the feasibility of combining a guaranty with the in-

spection, thus giving both parties to the contract a pecuniary interest in the safety of the boiler. So far as known, the conception had not at that time materialized elsewhere. Although distinctly evolved in the club, the seminal idea waited several years for further development on account of the intervention of the civil war.

With the return of peace, the subject was revived, and in May, 1866, prominent manufacturers in and out of the State secured a charter empowering the company formed under it "to inspect steam boilers and insure the owners against loss or damage arising from boiler explosions." Among the corporators were Richard W. H. Jarvis and Charles M. Beach.

In the following November the company was organized, when J. M. Allen, who had given much study to this and related subjects, was urged to take the management, but having made other engagements for the year, was compelled to decline. E. C. Roberts was accordingly elected president, and H. H. Hayden, secretary. In October, 1867, Mr. Allen succeeded to the presidency, and under his care a sickly infant, seriously threatened more than once with early death, has in twenty years grown into present usefulness, strength, and influence.

For a long time the process was slow, and the way wearisome. Most seemed to regard the new departure as a useless novelty that must soon run its short-lived course. What will Hartford people undertake to insure next? was a question often asked in tones of undisguised derision. In the hands of a manager less firm in conviction, or less conciliatory in manner, the prophecy of disaster must have wrought its own fulfillment. Mr. Allen met the flavor of sarcasm with the antidote of plausibility, and toiled on to create a demand which it should be his future business to supply.

For the first five years the company occupied a single room sixteen or eighteen feet square, and for the same period the floor of the vault was spread with papers for the protection of the books, from the unwillingness of the officers to go to the extravagance of fitting it up with shelves. In a moment of self-indulgence the president did invest fourteen dollars in a desk for his own use, but such outbreaks of luxury seldom occurred.

It is an open secret that all the successful insurance companies of Hartford practiced the most rigid economy till their business be-

came thoroughly established, while those which set out with the theory that success could be hastened by a liberal scale of expenditure, invariably dropped into the sleep that knows no awakening. Other classes may profit by the lesson.

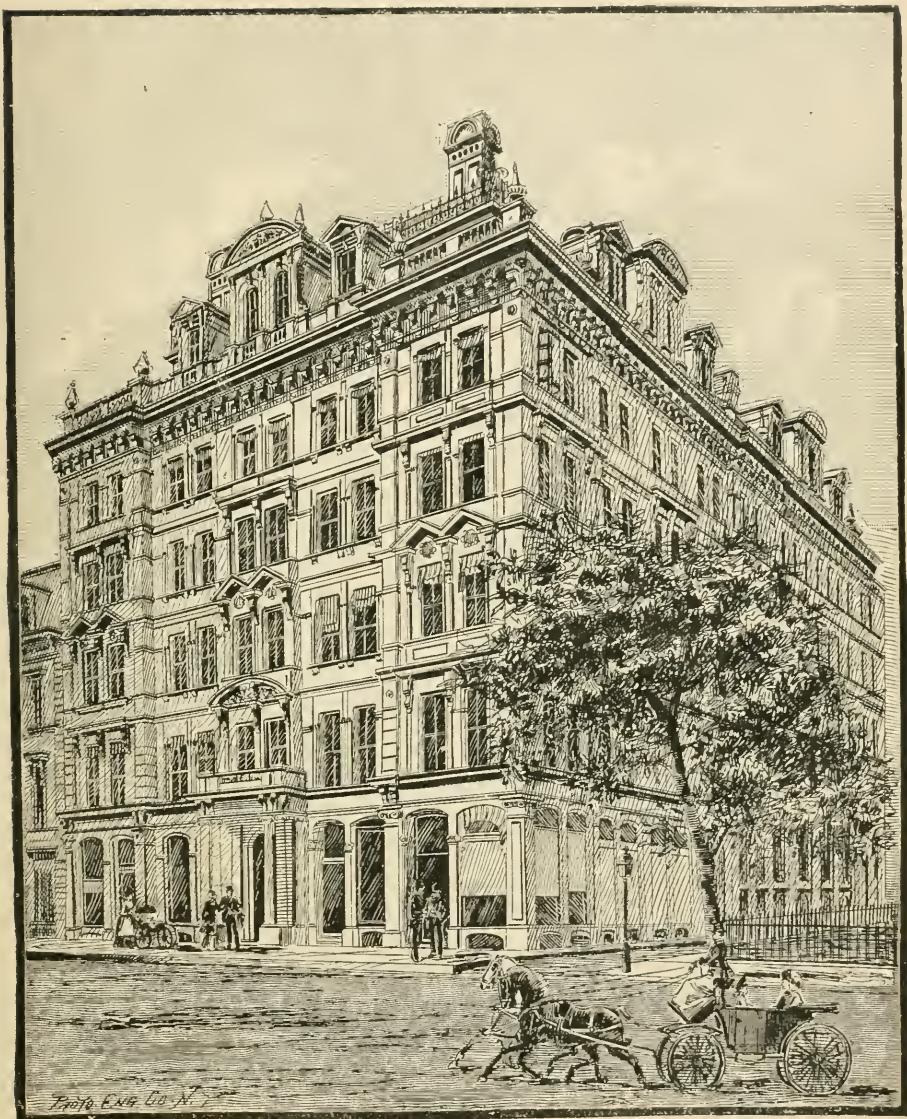
During the first year of his incumbency, Mr. Allen started the *Locomotive*, a monthly which has built up a body of valuable literature concerning the steam boiler and cognate subjects. In it, after exhaustive investigation, are treated, with various illustrative aids, particular cases of explosion, with the view of explaining the exact cause. From the multiplicity of inquiries thus pursued, generalizations of the utmost value have been formed. Nineteen thousand copies are distributed each month, and the paper is highly prized, not only by practical men, but also by students of science.

In the prosecution of its work the energies of the company are mainly directed to the cure of defects and the prevention of disaster. Boilers under its care are visited by experts at stated periods, and thoroughly examined, while the appliances intended to secure safety are put in complete order. During the year 1888, 91,567 defects were reported, of which 8,967 were dangerous. Had these been allowed to go undetected, the neglect in bad cases would have borne fruit hereafter in the needless destruction of life, limb, and property. This part of the work is performed by ninety-five skilled and trained inspectors.

Some defects are beyond the reach of human scrutiny, and hence, with the resources now at our command, the element of danger cannot be completely eliminated. In case of explosion or rupture, the company makes good all loss or damage to property, with indemnity for loss of life or personal injury, to an amount not exceeding the sum insured.

The home office is a magazine of statistics and information, collected from all parts of the country, and relating to every phase of the business, and of the whole patrons have the benefit free.

The company, without charge, furnishes to the insured plans and specifications for boilers, settings, and piping; also for steam chimneys, and when desired, supervises the erection, at reasonable expense. These embody the principles taught by scientific research and approved by experience, as made to subserve the attainment of the highest de-



AETNA LIFE INSURANCE COMPANY'S BUILDING.

(Home Office of the Hartford Steam Boiler Inspection and Insurance Company.)

gree of economy, efficiency, and safety. Many large plants have been thus built, requiring few years to offset the original cost by the saving of fuel. Suggestions in the way of economy make a part of the ordinary inspections.

The company has a laboratory for the analysis of waters injurious to boilers, and is thus able to prescribe the proper chemical remedy.

No officer or employé is permitted to have a pecuniary interest in any boiler or boiler appliance. While the best advice is given, an attitude of impartiality toward the trade is strictly maintained.

They now insure 29,000 boilers, the annual explosions averaging about one one-hundredth of one per cent. The imagination alone can deal with the saving of life, of suffering, and of property through the methods which have been elaborated and introduced to the world by a company which might, without violence to language, be classed among the beneficent institutions of Hartford.

Up to Jan. 1, 1889, the company had returned to patrons, in losses paid and cost of inspections, the sum of \$1,750,286.01. As an index of the public appreciation of the service rendered, the gross premiums since 1884 have increased at the rate of about \$100,000 a year, rising in 1888 to \$708,212.11. The heavy drain upon the revenues comes from cost of inspections, not from settlement of claims under policies. On Jan. 1, 1889, the total assets reached \$1,275,114, and the entire liability for losses accrued but not adjusted, \$8,064.66.

In 1873, the company moved into the present *Ætna* Life Insurance building, where its rooms are equipped with all the scientific appliances for the conduct of the business.

In January, 1869, Theodore H. Babcock succeeded Mr. Hayden as secretary, holding the place till February, 1873, when he retired to become manager of the New York department, where he still remains. J. B. Pierce was elected in 1873. Present officers are, J. M. Allen, president; Wm. B. Franklin, vice-president; F. B. Allen, second vice-president; and J. B. Pierce, secretary and treasurer.

HARTFORD NATIONAL BANKS.

DECEMBER 12, 1888.

NAME.	Organized.	Capital.	Surplus.	Deposits.	Presidents.	Cashiers.
Hartford,	1792	\$1,200,000	\$713,711	\$1,826,667	James Bolter,	W. S. Bridgeman.
Phoenix,	1814	1,000,000	574,243	890,394	H. A. Redfield.	E. M. Bunce.
Farmers & Mechanics,	1833	500,000	138,578	1,143,192	John G. Root.	W. W. Smith.
Exchange,	1834	500,000	207,259	805,223	J. R. Redfield.	W. S. Worcester.
American,	1852	600,000	359,050	1,240,902	Rowland Swift.	J. H. King.
Charter Oak,	1853	500,000	155,847	773,594	J. F. Morris.	J. P. Taylor.
Mercantile,	1854	500,000	65,408	627,989	J. B. Powell.	C. H. Field.
First,	1857	650,000	162,715	1,124,331	J. H. Knight.	C. D. Riley.
Etna,	1857	525,000	188,220	992,278	A. R. Hillyer.	A. G. Loomis.
		\$5,975,000	\$2,565,031	\$9,426,480		

HARTFORD STATE BANKS.

JANUARY 1, 1889.

NAME.	Organized.	Capital.	Surplus.	Deposits.	Presidents.	Cashiers.
Connecticut River,	1825	\$250,000	\$35,591	\$524,768	Samuel E. Elmore.	H. W. Erving.
State,	1849	400,000	58,268	647,435	Charles H. Brainard.	G. F. Hills.
City,	1851	440,000	86,237	598,124	Gustavus F. Davis.	C. T. Welles.
Hartford Trust,	1868	300,000	77,158	903,686	Ralph W. Cutler.	F. C. Sumner.
Conn. Trust & S. D. Co.,	1871	300,000	168,492	1,532,614	M. H. Whaples.	J. P. Wheeler.
United States,	1872	100,000	149,874	1,240,093	T. O. Enders.	J. L. Bunce.
Security Co.,	1875	200,000	93,281	394,723	Robert E. Day.	Wm. L. Matson.
Fidelity Co.,	1885	10,000	paid 20,857	103,367	J. M. Holcombe.	E. A. Stedman.
Total,		\$2,000,000	\$629,758	\$5,944,840		
		\$7,975,000	\$3,194,789	\$5,371,320		

BANKS OF DISCOUNT.

The banks of discount in Hartford, National and State, have an aggregate capital of \$7,975,000, with a surplus, at the date of the last official returns, of \$3,194,789, and with deposits of \$15,371,320. Capital and surplus exceed eleven millions, and this large sum is further swollen by the deposits to over twenty-six millions. In a city of less than sixty thousand inhabitants, only a fraction of the loanable accumulations represented by such figures can find employment at home and in affiliated communities. Our banks are compelled either to let their funds lie idle, or to buy millions of paper every year in outside markets. They prefer local customers, partly because they know more about the character, methods, and condition of neighbors, and partly because home borrowers are also depositors. Obviously, residents entitled to credit can be furnished with discounts at rates ranging somewhat below the rates current at the same time in ordinary manufacturing centers, where the supply is much less and the demand equally urgent. Borrowers without something substantial to offer as a basis of credit, find all climates about equally frigid. It can be stated authoritatively that manufacturers locating here on a solid foundation will be treated by the banks with a liberality that few places can afford to offer.

SAVINGS BANKS.

At the May session of the General Assembly of the State, 1819, a charter was granted to "The Society for Savings" in Hartford, which then had a population of a little less than 7,000. The society was a self-perpetuating body of forty-one corporators. Deposits were restricted to \$200 a year for one person.

At that time there was but one similar society in New England, which had been chartered, in 1816, in Boston.

Upon organizing, the corporators defined the object of the society to be to "aid the industrious, economical, and worthy, to protect them from the extravagance of the profligate, the snares of the vicious, and to bless them with competency and happiness." Its first deposit was June 19, 1819. In the first six months it received \$4,352.77 in deposits, and declared a dividend of \$37.31.



STATE SAVINGS BANK AND BOARD OF TRADE ROOMS.

The State Savings Bank was chartered in May, 1858; the Mechanics, in 1861; and the Dime, in 1870. Below is shown the growth of the business by periods of five years each.

Deposits,	1824,	\$72,347.25	Increase,	\$38,173.68
"	1829,	110,520.93	"	202,199.27
"	1834,	312,720.20	"	249,470.14
"	1839,	562,190.34	"	312,479.25
"	1844,	874,669.59	"	558,001.94
"	1849,	1,432,671.53	"	1,191,614.06
"	1854,	2,624,285.59	"	695,895.32
"	1859,	3,320,180.91	"	2,423,370.49
"	1864,	5,743,551.40	"	1,048,934.69
"	1869,	6,792,486.09	"	3,525,741.02
"	1874,	10,318,227.11	"	606,891.80
"	1879,	10,925,118.91	"	2,949,054.16
"	1884,	13,874,173.07	"	3,246,671.70
"	1889,	17,120,844.77	"	

It would be difficult to classify the depositors by occupation, and we know of but one serious effort ever made to accomplish this object, and that was fifteen years ago by the State Savings Bank. The classification made at that time is as follows, and would undoubtedly apply to the present time:

	Per cent.
Mechanics, laborers, and operatives in factories,	28.01
Women and children,	42.50
Farmers,	9.18
Clerks and agents,	3.65
Merchants and Traders,	2.61
Professional men,	1.51
Teachers, male,29
Artists, musicians, hotel and boarding-house keepers, officers of the army and navy, keepers of livery stables, editors and publishers,41
Unknown,	11.84
	<hr/> 100.00

It is reasonable to assume that the unknown are so divided among the known classes that the relative proportions would remain unchanged.



MEMORIAL ARCH.

Manufactures in Hartford.

THE BEGINNINGS.

FOR many years after the settlement of the country the energies of Hartford were largely monopolized by agriculture and trade.

Everywhere as new towns were planted in the wilderness, the evolution of ancillary industries followed for generations within narrow limits certain well-defined lines, and it was not till well into the present century that differentiation on a geometrical scale of progress began. Such aids to muscle as were most urgent, and could be supplied from the resources of a primitive community, came first. In 1637, a grist mill was built on *Little river, on a site that has been continuously occupied for the same purpose since. More than twenty years elapsed before the colonists enjoyed the benefits of a saw-mill, having built all their early homes from logs and boards prepared by hand. Cloth from hemp, flax, wool, and cotton was made at odd hours on domestic looms. Tanneries were soon introduced, the shoemaker rather preceding the tailor in ministering to the comfort and adornment of the settler.

Within the limits of the town, before the end of the seventeenth century, were several fulling mills for removing greasy matters from domestic woolens and giving them a more compact texture. Later, the export of hoops and staves to the West Indies encouraged cooperage. The making of hats began early and continued till recently, but in the modern whirl has been transferred to other places. Attempts to domicile the silk industry, pursued on a small scale for over a century at Mansfield and elsewhere, finally expanded in Hartford and South Manchester into the factories of the Cheney Brothers, in which millions are profitably invested.

* This stream has been known at different times as "The Riveret," "Mill," "Little," and now as "Park" river.

THE FIRST WOOLEN MILL IN AMERICA.

A woolen mill, the first in the country, was started in Hartford in 1788. Its capital of £1,250 was taken by thirty-one persons, including several leading men of the State. At the ceremonies attending the inauguration of General Washington, April 30, 1779, the president, vice-president, and Connecticut delegation in Congress, were dressed* in cloth from this mill. Contemporaneous press notices show that the promoters of the enterprise knew how to improve the incident to advertise their wares. On his tour through New England General Washington visited the factory in October, and on the assembling of Congress, Jan. 8, 1790, addressed both houses in a "brown colored suit" from the same establishment. During four months, from Sept. 1, 1788, 10,278 yards were made, in brown and gray, known as "Congress Brown" and "Hartford Gray." It sold at prices ranging from \$2.50 to \$5.00 per yard.

In 1791, a lottery, created to aid the enterprise, netted nearly \$10,000, postponing but not arresting the inevitable collapse. Lack of communication between different parts of the country narrowed the market; the general poverty after the revolution permitted few to indulge in the luxury of broadcloth; and in the supply of such demand as existed the company was forced to compete with the abundant capital, superior machinery, and cheap labor of Europe. Unsold goods accumulated in spite of their excellency. Auctions relieved the plethora, but weakened the treasury. In December, 1794, the company declared a dividend of fifty per cent., to be paid in cloth, and a few months later dissolved. A venture courageous but premature ended in disappointment. The old factory on Little river, near the foot of Mulberry street, was burned April 3, 1854.

* Just a century later, on March 4, 1889, President Harrison and Vice-President Morton wore inaugural suits made from cloth manufactured in the immediate vicinity of Hartford, and these high officials are expected to appear at the coming centennial celebration in New York city similarly attired. Not to be left too far behind in the march of progress, the South American republics also are now sending to the same mill for inaugural suits. Twenty-five million pounds of wool are consumed annually in the factories about this city.

MISCELLANEOUS INDUSTRIES.

About 1797, Dr. Apollos Kinsley built the first steam road wagon ever operated. He also invented the first brick pressing machine, and with it were made the molded bricks still to be seen in the "mansion house" just west of the police station on Kinsley street.

Bell-making flourished through a long period—a century ago in the hands of Doolittle & Goodyear, and a generation later in the large establishment of Ward, Bartholomew & Brainard, located back from Main street, opposite St. John's Church. Although the business has departed, some of its secrets survive. A Spanish half real ($6\frac{1}{4}$ cents), melted with each casting, was supposed to give a silvery tone to the metal, while this prodigality in the use of coin served the double purpose of explaining to church committees the costliness of bells, and of saving, in some cases, perhaps, the conscience of the dealer from the dread alternative of straining the truth to the point of fracture.

East Hartford, including Manchester, formed a part of the township of Hartford till 1783, and since, as well as before, the communities have been closely united by social and business ties. In 1747, under an exclusive privilege granted by the general court for fourteen years, Col. Joseph Pitkin set up, on Hockanum river, a forge for making bar-iron, and a mill for iron slitting. Three years later, parliament passed an act prohibiting the continuance in the colonies of iron mills and furnaces for making steel, under a penalty of two hundred pounds, and thus at birth was throttled a promising industry. During the Revolution, in the same buildings, powder was made in large quantities, by the Pitkin family, for the Continental army, for which they were afterwards compensated in part by grants of exclusive privileges in the manufacture of glass and snuff. In 1782, they were also forging anchors, and making mill-screws and nail-rods. Here, in 1797, were cast the guns which Elisha Pitkin gave to the old artillery company.

Most of the prominent families of Connecticut during the eighteenth century found in politics and in the professions spheres for the exercise of their superfluous energies, but the Pitkins were also irrepressible leaders in the modern industrial movement, which long



BUSHNELL PARK AND CAPITOL.

struggled against heavy difficulties, but which, after the adoption of the constitution of 1818, soon took a foremost place in winning wealth and influence. In a mill built by Elisha Pitkin about 1770, at the lowest privilege on the Hockanum, was set up the first wool-carding-machine run by power in the State, and probably in the country. Felt was made here in 1807 by Joseph, son of Elisha, under a patent for making "cloth without yarn." Samuel Pitkin, with John Warburton, an Englishman, as overseer, started the first successful cotton factory in Connecticut, known to the present generation as the Union Manufacturing Company. For the past forty years the family has been honorably represented in the industrial activities of Hartford by the Pitkin Brothers, of whom more will be said elsewhere.

Before the revolution, John Austin made silver spoons and other articles of luxury for the wealthy, working, from lack of capital, upon metal furnished by customers. Not long after the revolution, Jacob Sargeant began to manufacture silver ware upon a much more extensive scale, taking the lead, not only in Hartford, but in Connecticut. He erected the building west of the United States Hotel, now Nos. 20 and 22 State Street, using the entire premises. On the lower floor, back of the store, was a shop for fine work, including gold beads and eardrops, silver spoons, ladles, and sword trimmings. On the floor above he made the old-fashioned tall clocks. E. M. Roberts has some of the tools used by Mr. Sargeant a hundred years ago.

The brothers, John O. and Walter Pitkin, succeeded largely to the business. They had a shop across the river for the manufacture of solid silver spoons, forks, and spectacles, and the leading jewelry store in Hartford, in a building on Exchange corner, which was destroyed in the fire of 1833. The disaster did not check the prosperity of the firm. Pressure of orders often kept the men employed till midnight. The goods were made exclusively by hand until about 1855, when the concern procured dies for cutting out the forms, thus saving a large amount of labor. Competitors, however, soon forced it to discard the dies and return to the old method, by convincing the public, through advertisements, that the hand-made article was much more durable.

In 1834, Henry and James F. Pitkin made the first watches produced in this country, known as the American lever. Through work-

men trained by the Pitkins, the Waltham Watch Company may be said to be a scion from this stock.

Early in the century, T. D. & S. Boardman led the way in the production of hollow ware from Britannia, laying the foundations of an industry that, since the discovery of electro-plating, has grown into great importance here and elsewhere. The firm was one of the earliest to introduce the steam engine.

THE FIRST SPELLING-BOOK.

In 1783, Noah Webster published in Hartford his "First Part of a Grammatical Institute of the English Language," the second and third parts following in the two succeeding years. The series comprised a spelling-book, grammar, and reader—the first books of the kind published in America. So great was the sale of the speller that during the twenty years he was employed upon his dictionary, an income of less than a cent a copy provided the means for the entire support of his family.

THE SITUATION IN 1818.

In 1819, John C. Pease and John M. Niles issued a gazetteer of Connecticut and Rhode Island, based upon statistics for 1818. In Hartford a population estimated at 6,500 were housed in 850 dwellings, worshiped in six churches, and sent their children to twelve district schools. Free from dependence on the external world, the bibulous could drink the product of eight distilleries at twenty-one taverns, and if constrained by sudden thirst, could further refresh themselves at eighteen ale houses, presumably intercalated at convenient intervals between the more ambitious inns. By 1825, the number of distilleries had dropped to two, not from violence of reformatory measures, but because the restoration of foreign trade, after the war of 1812, withdrew the inordinate stimulus to domestic production.

Then, as now, Hartford was the leading trade-center of the State, having five wholesale and twenty-six retail dry goods, and sixty-eight grocery, provision, crockery, and drug stores. Nine printing offices helped to disseminate the wisdom of the community. So important was the river, not only to the town and country adjacent, but like-

wise to the region stretching many miles northward, that fourteen houses were concerned in navigation. Seven book stores add to the evidence that personal culture is indebted to generous gifts of inheritance for the current intellectual activity, manifested among other ways in the formation of coteries of ladies for the study of subjects historical and political, literary and social, philosophical and scientific, of all degrees of abstruseness and complexity.

In 1818, the city was well provided with artisans, like blacksmiths, masons, builders, carriage and cabinet-makers, and others, whose labor was chiefly directed to the supply of local needs. There were, one cotton factory of 320 spindles; two woolen factories, one employing fifteen hands; one machine cord factory, with an annual product of \$10,000; one oil mill; six tanneries; five potteries; one button-factory; one whip-lash factory, with a yearly output of \$10,000; two hat factories, one employing thirty-six hands; two tin shops; two looking-glass factories, with an aggregate annual product of \$30,000; four copper-smiths, one employing twenty workmen; one bell foundry; one paper hanging and one marble paper factory; six book binderies; three engravers; eight gold and silver smith's shops; fifteen shoe factories; ten coopers; three lottery offices; one maker of pewter (Britannia) ware; two gold leaf, one umbrella, and one brush factory; with the usual complement of miscellaneous employments.

BOOK PUBLISHING.

Early in the century, under the impulse communicated by Hudson & Goodwin, the business of book publishing began to assume importance, and soon grew to large proportions. Hartford took the lead in selling books by subscription, and for many years retained its position at the head of the trade. Oliver D. Cooke & Son were the pioneers, having in 1822 issued a "Family Encyclopedia," of which thousands of copies were circulated by this method. The late Timothy M. Allyn began his career as an agent for the firm, making much money for them as well as for himself. Silas Andrus, alone and in partnership with Homer Franklin and J. W. Judd, did a large business, especially in furnishing cheap editions of standard works, which were sold mostly at auction. About the year 1825, D. F. Robinson

& Co. opened the leading book-store in the city, selling over the counter as well as by agents. They published many school books. The firm of A. S. Barnes & Co., of New York, was a scion from this stock. L. E. Stebbins gave a further impetus to the trade by inventing a process for coloring pictures and maps by stencils. H. F. Sumner & Co., Case & Tiffany, J. S. Brown, and others, entered the field early. Firms multiplied till there were nearly twenty publishing houses in the city at one time. The business culminated with the literature of the war, but of late has declined materially in importance, though still represented by strong and enterprising establishments.

THE FIRST FOURDRINIER.

In 1829, Henry Hudson of Hartford introduced into his paper mill, on Hockanum river, one of the first two Fourdrinier machines made on this continent, the other going to Amos H. Hubbard of Norwich. They were built by Phelps & Spafford, now Smith, Winchester & Co., of South Windham. Previously all paper produced in America was either made by hand or on the old cylinder machine. From the introduction of the Fourdrinier dates the manufacture of the fine grades of paper.

In the production of cotton and woolen goods, paper, and some specialties, Hartford began early to utilize the water-power of neighboring towns, furnishing both capital and direction. Many of the prosperous villages that dot the country drew their first sustenance from this city, and are still bound to it by close business connections. She was herself, however, compelled to wait for the advent of the steam engine before entering on an industrial career distinctively her own. Steam, too, changed the character of her home manufactures. Few of the industries catalogued in the Gazetteer of 1819 became permanently domiciled here. A mention of the lines that have drifted elsewhere would involve a repetition of most of the list. The heavy concerns of to-day, with few exceptions, trace their lineage to the foundry and machine shop.

TRANSITION TO THE AGE OF IRON AND STEEL.

In 1820, the brothers Alpheus and Truman Hanks, members of a family noted for mechanical talent, bought the foundry of Goodwin, Dodd & Gilbert, on Commerce street. They afterwards added

the machine shop across the way, which had been started by Daniel P. Copeland. Here, it is claimed, were made the first iron plow castings in the country, and here was set up the first steam engine in the city. After various changes Samuel Woodruff was admitted to the partnership in 1839, and H. B. Beach in 1845, when was formed the firm of Woodruff & Beach, which in 1853 was merged into the Woodruff & Beach Iron Works, a joint stock company. At one time the establishment rose to great prominence as makers of heavy machinery and steam boilers. The latter branch of work is still continued on a smaller scale by H. B. Beach & Son.

In 1834, what is now known as The Phoenix Iron Works, on Arch street, were established by Levi Lincoln, author of several valuable inventions, and ancestor of the present proprietors. Elsewhere will be found a history of the company, and it is mentioned here simply because it was a prominent force in the transitional period of our manufactures.

A FATAL MOVE.

In 1852, the Sharps Rifle Manufacturing Company bought from Christian Sharps the patents for a breech-loading rifle, and contracted with Robbins & Lawrence of Windsor, Vermont, to make 5,000 at that place, and also to build a factory in Hartford with a capacity for turning out 20,000 a year. Its actual capital was \$100,000, afterwards increased to \$125,000. For a long period the company was highly prosperous. Out of profits it paid for the building and equipments, returned the original investment to the owners, and declared large dividends. Owing to an unfortunate bargain with the promoter of the enterprise, to take effect only when it should reach an entirely unexpected degree of success, but which came before twenty years had elapsed, the owners dissolved the company about 1873 with a division of assets among the shareholders.

Another combination bought the patents and machinery. In an evil hour, the new company yielded to the blandishments of a sister city, surrendering in return for gilded fruit the solid advantages of Hartford to move elsewhere. Largesses proved a rueful compensation

for the loss of wise supervision and trained labor. For years the name painted in large letters on deserted walls told in silence the story of decay and death—a monumental warning to reject the allurement of donatives when tempted to swap certainties for uncertainties.

INFLUENCE OF COLT'S ARMORY.

A full account of Colt's Patent Fire Arms Company is given in the proper place. Under the management of Colonel Colt, aided by the able men whom he gathered around him, the establishment advanced, in an incredibly short period, to a foremost rank among the leading houses of the world. The position was won not more by the great value of Colonel Colt's invention than by the excellence of workmanship that extended to every detail of construction, and the severity of judgment that could tolerate no remediable imperfection in the mechanism of the weapon, or in the machinery by which it was made. Several of the most important industries of Hartford were organized by colonists from the armory, who brought to new lines of effort the same determination to produce the best results by the most efficient means. The leaven of the old lump pervades the new. Could one trace downward and outward hidden and intricate streams of influence, he would find that the lessons inculcated in the armory a generation ago, and since taught by its graduates, have been largely instrumental in stimulating other manufacturers here to set up similar standards, and in winning for Hartford a world-wide reputation for the excellence of its manufactured goods. Our shops are equipped for turning out fine grades of work, and when, as occasionally happens, strangers offer contracts with the amiable suggestion that they care less for precision and finish than for cheapness, they are politely informed that they have come to the wrong town.

FREEDOM FROM LABOR TROUBLES.

Honest work makes faithful workmen. Skill, intelligence, and principle develop together from a single bud. While labor troubles have visited many places during the last few years, causing great waste of capital and bitterness of feeling, Hartford has wholly escaped the contagion. In our large establishments the relations between employers

Present Manufactures.

COLT'S PATENT FIRE ARMS MANUFACTURING COMPANY.

SAMUEL COLT, the pioneer in introducing into Hartford manufacturing on a large scale, through personal efforts, perpetuated and extended by the able assistants whom he called around him, communicated a very decided impulse to the modern industrial system of the world.

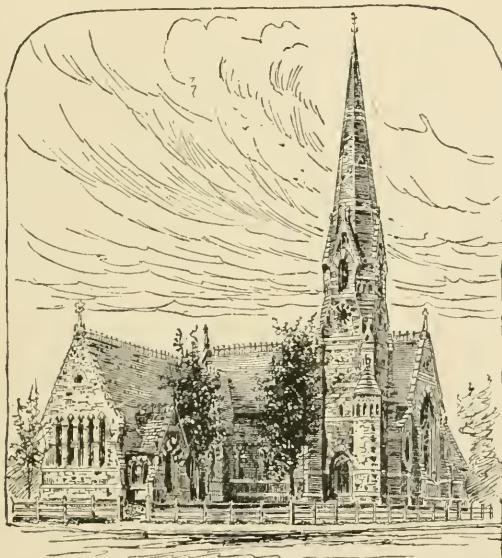
He was born in Hartford, July 19, 1814. At the age of ten he entered his father's factory at Ware, Mass., and at fourteen was sent to a boarding school at Amherst, but preferring to gain knowledge in a broader field he shipped before the mast for Calcutta, in July, 1827, and on the voyage made a model which held the germs of the future revolver. Returning home, he again entered his father's mill, where, under the tuition of Wm. T. Smith, a chemist in charge of the dyeing and bleaching department, he obtained a practical acquaintance with chemistry, becoming quite expert as a manipulator. At the age of eighteen, with the knowledge and dexterity acquired in the primitive laboratory at Ware, he made his second venture alone into the great world under the name of Dr. Coul, as a lecturer upon nitrous oxide gas. His tours extended from Canada to the Gulf of Mexico, and covered a period of over two years. He often experimented before full houses, and thus obtained the means for developing the invention which even at this time seems to have held him with the strength of an absorbing passion. While most boys are still at school, or under the tutelage of parents, he had visited the antipodes, instructed large audiences from the platform, and multiplied by six the effectiveness of the pistol. In February, 1836, he obtained a United States patent for a rotating cylinder con-

taining several chambers to be discharged through a single barrel. The previous year he had taken out patents in England and France. In 1836, The Patent Arms Manufacturing Company was established at Paterson, N. J., with a proposed capital of \$300,000, about one-half of which was paid in, for making the revolvers. Colonel Colt put forth strenuous efforts to have the government adopt the weapon, but two boards of United States officers reported against it. Meantime, under the pressure of necessity, many were sold at reduced prices to Texan rangers, and played an important part in winning Texan independence. Later the revolvers were used by a few of our troops with great effectiveness in the Seminole war, the savages becoming utterly disheartened on finding that their pursuers could keep up a deadly fire without stopping to re-load. Thus, in spite of official criticism and condemnation, the pistol forced recognition of its merits by actual tests on the battle-field. But the demonstration came too late to save the Paterson company that failed in 1842, because the government withheld the encouragement which the promoters of the enterprise had a right to expect as justly due to an invention of such obvious value to the nation.

With the suspension of the works at Paterson the manufacture of the weapon stopped, while in time the demand, chiefly from the frontier, completely drained the market. At the outbreak of the Mexican war, in 1847, General Taylor sent to Colonel Colt for a supply. Although none were then to be had, the opportunity so long deferred had come at last. Colonel Colt constructed a new model containing many improvements, and having contracted to furnish 1000 for \$28,000, made them in an armory hired for the purpose in Whitneyville. From this time forward his genius found an ever-broadening field for its exercise, and pecuniary rewards rolled in with the momentum of a mountain torrent.

The following year Colonel Colt transferred his plant to Hartford, occupying at first the premises west of the present Hartford Fire Insurance offices, and moving soon after to more commodious quarters on Mechanic street. In 1852, he bought a large tract in the south meadows, within the city limits, which he enclosed with a dyke one and three-fourths miles long, twenty feet high on the low grounds, and one hundred feet wide at the base narrowing to a

driveway of forty feet on top. Its walls strengthened and beautified by willows afford sure protection against the heaviest freshets of the Connecticut. In the fall of 1855, the new armory was ready for occupancy. It consists of two parallel buildings five hundred feet long, and four stories high, connected at the center by a building 500 feet long, the whole resembling in form a capital H. Offices and warerooms were added at convenient locations. To keep pace with the rapid expansion of the business, in 1861 the armory was practically duplicated. Within the enclosure were also erected dwellings for the workmen, a public hall, and a library. On the same grounds a beautiful memorial church has been built since the death of Colonel Colt by Mrs. Colt.



CHURCH OF THE GOOD SHEPHERD.

(Memorial Church.)

Like most born leaders, Col. Colt exercised keen discrimination in the choice of his assistants, whom, in spite of a stern discipline, he held with hooks of steel through the spirit of fairness, kindness, and generosity that pervaded his intercourse with them. Quick to discover merit, he was also profusely liberal in rewarding it when devoted to his service. The combination of intellectual forces grouped around

him as the business developed had probably never been equaled in any other industrial establishment. His own personal force and magnetism were so irresistible that, when a penniless youth of twenty-one, he could persuade hard-headed capitalists to invest \$300,000—then a much larger sum than now—in a plant for the manufacture of his pistol. The project failed, not because his enthusiasm rested on an unsubstantial or insufficient basis, but because he was far ahead of the age, and the task of educating the public in time to avert the catastrophe was too heavy for a single boy. When at length prosperity brought opportunities for the full exercise of his mental resources, the doors of cabinet ministers and kings flew open at his bidding, while in his presence the ablest recognized their peer.

In 1849, Col. Colt secured the services of Elisha K. Root, a machinist who had learned the trade from its rudiments, and who had been the master mind in rejuvenating and modernizing the axe factory at Collinsville. Placed at the head of the mechanical and manufacturing departments, Mr. Root brought to the position rare inventive skill guided by sound judgment, and a constant purpose to reach the best results by the simplest methods. Aided by other bright minds, he was indefatigable in devising and constructing machinery for making all similar parts of the revolver interchangeable, and for producing them cheaply. A full treasury furnished the workers with ample facilities for elaborating their ideas. The armory became a genuine training school in applied mechanics, where absolute excellence, even if beyond human reach, was the only recognized standard. Under the tuition of Col. Colt, E. K. Root, Samuel H. Bachelor, Horace Lord, and other teachers, subordinates, adopted like ideals, and as they colonized elsewhere, many in positions of prominence, have been noted for the superiority of their work. The union of mental and pecuniary ability enabled the establishment to push far ahead of anything previously accomplished in the art of gun-making, in the complete adaptation of mechanical means to ends. Col. Colt cared little for the first cost of a machine, provided it operated with exactness and economy, well knowing that the most perfect appliances pay for themselves quickest.

Perhaps some future historian will show the deep and wide-spread influence of Colt's Armory as an educational center, by giving the

biographies of its more prominent graduates. For Hartford it has furnished organizers and presidents to the Pratt & Whitney Co., the Weed Sewing Machine Co., the Machine Screw Co., and the Billings & Spencer Co.; to Yale University it has given a distinguished professor, and going farther from home the circle widens too broadly to be outlined within our limits. One case, perhaps an extreme one, is the type of many. Amos West, formerly head blacksmith, is now principal proprietor of extensive iron works in Cedar Town, Georgia, with the village around them, and of the railway leading thither.

After the Mexican war, calls for the revolver poured in from all quarters of the earth—especially from our own frontier, from California, Australia, the Crimea, and the East Indies. Meantime the work of simplification and improvement kept pace with the demand. From the department for the manufacture of gun machinery several foreign armories were largely equipped.

Col. Colt was one of the first to appreciate the possibilities of the submarine torpedo, having begun in boyhood experiments which were kept up at intervals through life. He was also the first to construct and lay a submarine telegraph cable, having by this means, in 1843, successfully connected New York City with stations on Fire and Coney Islands.

Colonel Colt planned to add to the armory a plant for the manufacture of cannon on a large scale, but did not live to carry out the idea. Amid herculean labors and far-reaching schemes he died January 10, 1862.

The Colt Patent Fire-Arms Company had been incorporated in 1856. Elisha K. Root was now elected president, and held the position till his death, July 5, 1865. He was succeeded in the presidency by the present incumbent, Richard W. H. Jarvis.

February 5, 1864, the original armory was destroyed by fire, involving an estimated loss of \$800,000 in machines and \$400,000 in stock, besides valuable models and drawings. The buildings were restored fire-proof on the old foundations. One half of the armory was saved, and in this the work went on without interruption.

The production of revolvers increased from 37,616 in 1859, to 111,616 in 1862, and 136,579 in 1863. In the years 1863 and 1864

over 95,000 muskets were also made. After the war the production declined with the demand.

To pistols and muskets the company has added from time to time the manufacture of gun machinery, steam engines, sewing machines, the Gatling gun, and other specialties. They employ 500 men and pay over \$330,000 annually in wages.

General William B. Franklin was for many years vice-president and general manager, but was succeeded, April 1, 1888, by Caldwell H. Colt as vice-president, and by John H. Hall, formerly of Portland, Connecticut, as general manager.

PHœNIX IRON WORKS.

In 1832, Levi Lincoln, ancestor of the present proprietors of the Phœnix Iron Works, was agent and manager of the New England Card Company, which had a shop on Ann Street. At one time the concern had on its books the names of nine hundred women and children scattered about the country who were employed at odd hours in setting the wire teeth of the cards used in the manufacture of cotton and woolen goods and for other purposes. Mr. Lincoln either invented or greatly improved a machine for punching the holes in the leather, and for making and inserting the teeth by a continuous process. The contrivance put an end to the domestic industry. It was operated at first by dog-power. Applying the same mechanical principles, Mr. Lincoln invented the hook-and-eye machine. He also invented the molasses gate which is still made in large quantities, and has never since been materially improved.

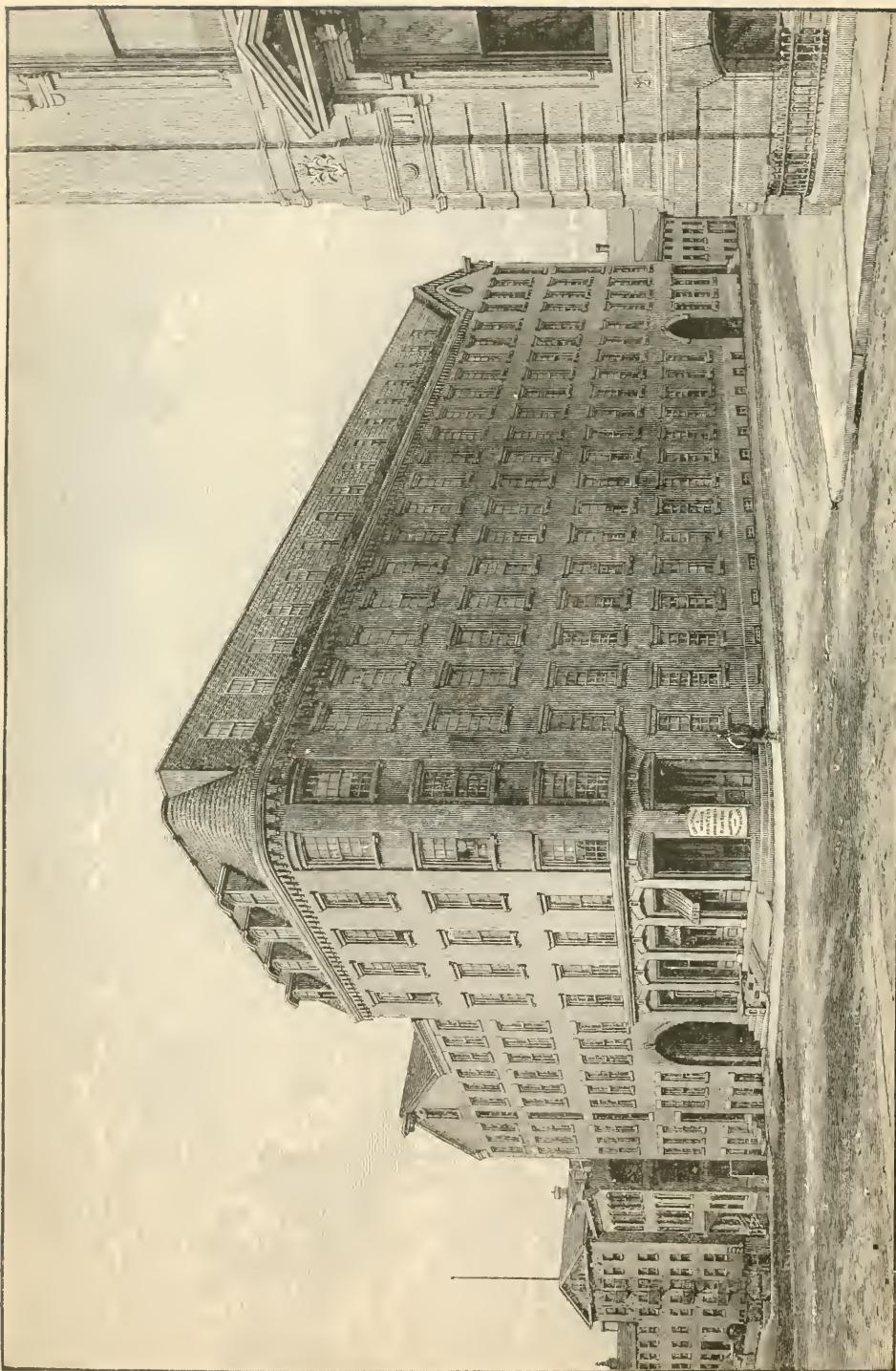
In 1841, the premises, where many ideas had found embodiment in practical forms, were turned into a regular machine shop, under the firm name of George S. Lincoln & Co. In a short time they were doing a large business in the production of lathes, pulleys, shaftings, and small tools. Special industries were then springing up over the State, and in many cases the projectors came to George S. Lincoln & Co. for their machinery, in part because the mechanical talent of the concern was found to be highly valuable in eliminating defects of design, and in adapting adjustments to the ends required. At one time gun tools, of recognized superiority, were made in large quantities for the armories of the United States and Europe.

During the early struggles of the silk industry in America, a good deal of silk machinery was made here. About the year 1846, Levi Lincoln, in association with William Rogers, became deeply interested in experiments for discovering the utilities of electro-plating, their studies developing into a new and valuable line of business in the hands of Rogers Brothers and derivative houses.

F. A. Pratt was superintendent from 1854 to '61, and on the list of employés are found many names that have since become well known as inventors or managers.

The foundry continued to grow in relative importance, and for the last twelve or fifteen years has been the leading feature of the business. The firm makes a specialty of architectural iron work, including columns, fronts, lintels, girders, vault and jail-doors, shutters, gratings, balconies, fences, window-guards, fire-escapes, fountains, vases, lawn seats, hydrants, etc. They do a large business also in machinists' tools, lathes, planers, upright drills, etc., and in shafting, pulleys, and gearing. The substantial and elegant work produced here can be seen in the State Capitol, in the buildings of Trinity College, the Connecticut Mutual Life, the *Ætna* Life, and in hundreds of other widely scattered structures. The premises extend from 54 to 70 Arch Street. They employ 150 hands and pay over \$70,000 a year in wages. The present company consists of Charles L. Lincoln, with his two sons, Charles P. and Theodore M.

THE CASE, LOCKWOOD & BRAINARD COMPANY'S BUILDING.



THE CASE, LOCKWOOD & BRAINARD COMPANY.

Like all the industries of Hartford which have achieved solid and enduring prosperity, this establishment began in a humble way, winning success by good management and good work. Perhaps the house under consideration differs from its compeers most widely in the length of the period through which the leading names in the management were associated in harmonious and effective co-operation.

In January, 1836, Newton Case and E. D. Tiffany bought for \$4,500 the printing office of J. H. Wells, located where the *Courant* building now stands. Mr. Case, the capitalist of the new venture, had only \$700, but friends, who had observed his habits, readily furnished the money and credit to close the trade. A. D. Waters, a partner of Mr. Case in copper-plate printing, was also admitted into the firm. Mr. Tiffany, foreman in the office of Mr. Wells, took charge of the mechanical department, while Mr. Case kept the accounts and managed the finances.

The original firm, known as Case, Tiffany & Co., began operations with eight Wells hand presses, one Ramage press, and with type to correspond. Stereotype plates were then rare, and electro-types unknown. An Adams press of the first patent was soon added to the equipment, and for two years was run by hand-power.

One year after the formation of the firm the panic of 1837 struck the country. During the months that preceded the storm the partnership prospered, reducing their indebtedness to \$1,000. For this sum the obligation fell due at a time of critical stringency in the loan market, when Mr. Wells expressed a willingness to take back the property in settlement of the claim. Mr. Case, however, had traveled too far on the road toward success to surrender or retreat. He succeeded in raising the amount, and the final payment was made.

In January, 1838, Mr. Waters withdrew. Early in the same year Messrs. Case & Tiffany bought the printing-house of Philemon Canfield,* then the largest in the State, and admitted Leander C. Burnham, one of the workmen, into the partnership. The purchase added

* Philemon Canfield introduced the first power press used in Hartford. It was made at Brattleboro, Vt., and run by horse-power.

to the equipment five power and nine hand presses, a large amount of type, and a steam engine.

Having outgrown their first quarters, the firm leased for five years the premises at the southwest corner of Pearl and Trumbull Streets, built in 1793 for a county jail and tavern. The many alterations required were quickly made, the steam engine was transferred, and in April, 1838, the new office was opened. In 1841 they purchased the property.



THE "OLD JAIL AND TAVERN."

Business showed few signs of revival till 1840, when indications of improvement began to reawaken a spirit of hopefulness and enterprise. Believing that the tokens were not illusive, the firm bought the stereotype plates and unsold stock of the *Cottage Bible*,—a commentary in two royal octavo volumes,—and before the plates were laid aside, had sold over 200,000 copies. Here, too, for the first fifteen years Webster's *Unabridged Dictionary* was printed and bound, keeping from six to eight presses constantly at work. School-books were manufactured in large quantities, one having reached a circulation of 116,000. Success with the *Cottage Bible* led the firm on till many other works were added to the list of subscription books published by them, and the field was diligently cultivated with satisfactory results.

In 1848, Mr. Burnham died. In 1850, the remaining members erected on Trumbull Street, south of the "old jail," a building fifty by sixty-four feet, five stories high, placing a new engine in the basement, and fitting up a book-bindery above. In 1853, James Lockwood

and Albert G. Cooley were taken into the partnership. In 1857, Messrs. Tiffany and Cooley retired. In January, 1858, Mr. Leverett Brainard became a partner in the firm. The association of Messrs. Case, Lockwood & Brainard remained unbroken until the death of Mr. Lockwood, Jan. 13, 1888.

The war so added to the volume of business that the old accommodations became inadequate, and in 1865 a brick building was erected just west, on contiguous ground. After the demolition of the "jail" the next year, the corner building was erected. This is five stories above the basement, one hundred and thirty-five feet long by forty wide, exclusive of an L for stairways, elevator, and closets.

In January, 1868, the name was changed from Case, Lockwood & Co., to Case, Lockwood & Brainard, and from Jan. 1, 1874, under a special charter from the State, the establishment was organized as "The Case, Lockwood & Brainard Co."

In 1875, the "Hutchings Printing House" was absorbed entire.

The company's extensive plant, on Pearl and Trumbull Streets, includes the most approved modern machinery, much of it being specially built, and adapted to the various kinds of work. The printing and binding of illustrated catalogues for manufacturers is a most important branch of the business, as well as composition, press-work, and binding on general edition work.

The amount of work done for different insurance companies annually is enormous. The manufacture of blank and record books, and miscellaneous binding of every description, constitute an extensive department of the establishment. Another prominent feature of the business is the manufacture of calendar "pads,"—daily, weekly, and monthly,—and their attachment, for lithographers and others.

Recently the company has added a department for the manufacture of diaries, offering to the trade a selection from three hundred different styles of the American Diary, and from fifty styles of the Calendar Record.

They employ two hundred hands, and disburse over \$100,000 annually in wages.

The executive officers are, Newton Case, president; Marcus A. Casey, vice-president; Leverett Brainard, secretary and treasurer; Edgar P. Cowles, assistant treasurer; John Rearden, assistant secretary.

DRAKE & PARSONS.

About the year 1835, J. Seymour Brown opened a book bindery in the Catlin building at the corner of Main and Asylum. After a short tenancy he moved into the new block erected by D. F. Robinson, next north of the Center Church conference room, occupying the entire two upper stories and attic. At the outset his business was mainly confined to binding the works issued by D. F. Robinson & Co., large publishers of school books, in which specialty Hartford not only took the lead in the United States, but held it for a long period.

In 1841, Sidney Drake became a partner, and the firm of Brown & Drake continued till 1852, when J. S. Brown sold his interest to his brother Luther R. On the admission of John G. Parsons in 1854, the title was changed to Drake, Brown & Co. They remained in the Robinson building nearly twenty years, binding for D. F. Robinson & Co., and for the New York houses, Pratt, Woodford & Co., and Farmer, Brace & Co., such books as Olney's Geography, Comstock's Philosophy, Chemistry, Geology, Mineralogy, Botany, and Physiology, amounting in all to millions of volumes. They also bound for H. F. Sumner & Co., Case, Tiffany & Burnham, and A. S. Barnes, who began active life in Hartford, and here laid the foundations for the great publishing house of A. S. Barnes & Co.

Through the connection of Drake, Brown & Co., as binders, with G. & C. Merriam of Springfield, the way was opened for the manufacture, in Hartford, of Webster's Unabridged Dictionary, which they bound during the early years of its publication, having been the first to introduce here with this work the flexible back — a great improvement in durability and convenience.

In 1855, the firm moved to a building owned by Willis Thrall on High street, near its junction with Asylum. Another generation of publishers was coming upon the stage, and among their large customers were now L. E. Stebbins, House & Brown, A. C. Goodman, Pratt, Oakley & Co., of New York, Edwards of St. Louis, and others. Shortly before the removal Phillips & Sampson, of Boston, began a series of standard English poets in royal octavo, and from difficulty in obtaining the style of binding they desired at home, applied to

Drake, Brown & Co., sending hither the printed sheets of Byron's complete works—the first volume of the series. So well pleased were they with the work that, as the others were issued from the press, they were forwarded to this firm to be bound, the job embracing many thousand copies of each. After the dissolution of the house of Philips & Sampson the plates of the series passed successively into the hands of about a dozen different publishers, a noteworthy illustration of the vicissitudes of business, and during the period that has since elapsed the Hartford firm has bound for all of them, and for some continues to now.

In January, 1858, Thrall's building was burned, when the stock, tools, accounts, and records of the firm were destroyed. At this juncture, L. R. Brown retired, and February 1st, having bought the bindery of Silas Andrus, Drake & Parsons took possession of their present quarters, No. 354 Asylum street.

War literature stimulated to intense though transient activity the subscription book business, and for local houses Drake & Parsons did most of the binding. During their occupancy of the Andrus block, they have done work for about sixty different publishers, located in Hartford, Springfield, Boston, New York, and Cincinnati, binding in the aggregate 6,000,000 volumes, most of them large octavo, and many large quarto and folio. Among those which have reached a large circulation are Headley's "Great Rebellion," 250,000 volumes; A. D. Richardson's "Field, Dungeon, and Escape," "Beyond the Mississippi," and "Personal History of U. S. Grant," nearly 300,000; "Innocents Abroad," 150,000; "Nurse and Spy," 160,000; Parsons' "Laws of Business," 200,000; Commentary on the Bible, 100,000; Gough's "Platform Echoes," 125,000.

During an existence of more than half a century, the firm has borne a spotless and honorable name, built upon thorough work and upright dealings.

SMITH, BOURN & COMPANY.

This firm runs back to 1794, when the business was established by Normand Smith. From an early period it assumed and has since maintained a leading position in the manufacture of saddlery. Normand 2d and Thomas Smith succeeded their father. Normand

2d died at the age of thirty-two, having, during his brief career, been sufficiently successful, not only to accumulate a handsome fortune for those days, but also to build and give as a free church, to the present Fourth Congregational Society, the structure on Main street, which was afterwards sold for secular uses, and is now known as the Melodeon. A memoir of him was written by Joel Hawes for the edification of the Sunday-schools.

In 1816 Smith, Shelden & Bigelow opened a house in New Orleans, and were supplied with goods from the manufactory of the parent establishment in Hartford. From the connections thus formed the business became almost entirely southern, and so continued till the outbreak of the civil war. In winter, when New Haven harbor was frozen, goods were often carted over-land to New York to be shipped thence by sailing packets to New Orleans.

Through various changes since the death of the founder, Normand Smith, one or more of his sons have always been members of the partnership. In 1860, the firm became Smith, Bourn & Co., Mr. S. Bourn being the father of Benjamin A., the present partner and active manager.

Connections which had endured without a break for forty-four years were severed by the rebellion. At once the house turned their attention to the supply of military equipments, and were soon employing six hundred hands. After the war they resumed the manufacture of saddlery, and gradually built up a large northern trade, which has since been extended to the south, not as formerly through a branch house located there, but through their New York agency.

From the north corner of Temple and Main streets the site in part of the Cheney Block, the firm moved their works about 1849 to 334 Asylum, the lower floor of which they have used for a saddlery-store since the completion of their commodious factory on Sibley street in 1884. They employ 190 hands, and disburse over \$100,000 in wages yearly.



JEWELL BELTING COMPANY.

Pliny Jewell, Sr., born at Winchester, N. H., in 1797, came to Hartford in 1845, and began active life in his new home by running a tan-yard near Little River, on what is now Bushnell Park. For several generations his ancestors in the male line had been tanners, so that he brought to the work all the knowledge and skill of the time. In 1848, he opened a shop on Trumbull Street for making leather belts, having been the third person in America to engage in this special business. The father and his sons after him did much to educate the manufacturers of the United States, and indirectly of Europe, to substitute this means for the conveyance of power in place of the costly and cumbersome system of gearing, then largely in use. For a number of years work in the shop was performed almost entirely by hand, the few mechanical appliances employed being rude and primitive. Four of the five sons—Pliny, Jr., Marshall, Charles A., and Lyman B.—were successively admitted into the partnership, which, under the name of P. Jewell & Sons, soon won a world-wide reputation for the magnitude and excellence of its product.

In 1863, the firm bought the plating factory of the Rogers

Brothers, at the corner of Trumbull and Hicks streets, which they enlarged and partially rebuilt. The structure is now 185 by 44 feet, five stories high, with an L of three stories. With an abundance of room and steam power and machinery—invented mostly by manufacturers of shoes, but adapted by the firm to the requirements of belt-making—the business, under the stimulus imparted by the war, expanded with great rapidity.

About 1856, they established a tannery at Detroit, Mich., where, for twenty-five years, their leather was chiefly prepared. At present they are operating large tanneries both at Rome, Ga., and Jellico, Tenn., whence their materials for belting are now almost exclusively drawn. With the destruction of forests in Michigan, it has been found more profitable to use the works at Detroit for the production of other grades of leather, the proximity of an abundance of oak giving to the southern locations an advantage which greatly outweighs the disadvantages.

In 1869, at the ripe age of seventy-two, Pliny Jewell, Sr., passed away, having lived to see the establishment he founded the largest of the kind in the country, and bequeathing, as a still more precious inheritance, the record of a noble and spotless life. After a brief illness, Marshall Jewell followed, in February, 1883, at the high tide of vigorous manhood, crowned with honors and beloved by a wide circle of devoted friends. Having served three terms as governor of Connecticut, he was appointed United States minister to the Court of St. Petersburg in 1873. While there he negotiated the trade-mark treaty with Russia, and discovered the process of making scented Russian leather, and was afterwards instrumental in introducing its successful manufacture into this country. The following year he was recalled to take the position of postmaster-general in the cabinet of president Grant. At Washington he endeavored to conduct the affairs of the department on strict business principles, becoming, in the execution of the policy, the terror of lazy clerks and dishonest contractors. Questionable schemes found in him a watchful critic, and fraudulent ones an unrelenting foe. During his administration the efficiency of the service was greatly increased, and the expenditures diminished. He plowed up old abuses without stopping to count the personal cost or consequences, and introduced new methods which

worked so admirably that no successor has dreamed of changing them.

But the path of the reformer in public affairs does not lead through green pastures or beside the still waters. The mild approval of good men—a tenuous support in the wear and weariness of prolonged conflict—opposes feeble resistance to the organized hostility that strikes back through a thousand open and secret channels. Individual efforts to checkmate the semi-respectable predatory class that encamp in force around most public treasures from which many millions are annually disbursed, end in final martyrdom, except at infrequent intervals when, under the provocation of some special enormity, the people rise against the offenders in short but possibly sharp and decisive spasms of indignation.

July 14, 1876, Gov. Jewell retired from the cabinet. In 1880, he was called to take the chairmanship of the republican national committee, and performed a leading part in directing the contest which ended in the election of President Garfield.

Harvey Jewell, the only son not a member of the partnership, practiced law in Boston, and was one of the Judges of the Court of Alabama claims.

Under an act of incorporation granted by the State in 1881, the Jewell Belting Co. was organized, in 1883, as successors to P. Jewell & Sons. All the stock is owned by the family and a few employés. About one million of dollars is invested in the business, one-third in Hartford, and the rest in conducting ancillary operations elsewhere. The executive officers are, Pliny Jewell, president; Lyman B. Jewell, vice-president; Charles A. Jewell, treasurer; and Charles E. Newton, secretary.

A closely related industry is the Jewell Pin Company, being largely owned and managed by the same parties. It was chartered in 1881, with a capital of \$60,000. The factory, in the rear of the belting works, consists of two buildings, each eighty by twenty-five feet, and two stories high. The machines are all made on the premises, and each one is capable of turning out 160 pins a minute. As forty are in use, if all were running they would produce 3,840,000 in a day of ten hours. By a single process the wire is cut, headed, sharpened, and polished. After passing through a process of whitening and

cleansing in bulk, the pins are put upon papers by other machines equally ingenious. The company makes over thirty sizes.

Pliny Jewell, president; F. B. Wilson, manager and secretary; and Charles A. Jewell, treasurer.

The Belting and Pin Companies together employ 137 men and 16 girls, and pay out over \$70,000 a year in wages.

JAMES L. HOWARD & CO.

James L. Howard came to Hartford in 1838, and in 1841 formed a partnership with Edmund Hurlburt, under the firm name of Hurlburt & Howard, dealers in carriage and saddlery hardware, with a store in the building next north of the City Hotel. After the lapse of three or four years, Mr. Howard bought the interest of Mr. Hurlburt, and for a while continued the business alone, but subsequently admitted his brothers, one after another, to the partnership, which then became known as James L. Howard & Co. The firm moved to Asylum, near Main, about 1848, when there were no stores and but few scattered residences within the city limits westward.

The firm was the first in the United States to enter in a broad and systematic way upon the manufacture of railway car trimmings, and soon seeing the advantage of devoting its entire energies to the development of this branch, gave up the saddlery hardware line. For a long period it was the leading house of the country in furnishing railway supplies, and still retains a very prominent position, though located several degrees eastward of the railway center. Many of the notable inventions which add to the comfort and safety of the traveler and to the ornamentation of the coach, have been introduced by this establishment.

In 1846, the firm built their extensive block and factory on Asylum street, near the station, where the business has since been carried on, and in 1876 was incorporated under a special charter from the State as James L. Howard & Co. It employs 75 men, and pays \$40,000 a year in wages.

James L. Howard, president; George E. Howard, vice-president; Frank L. Howard, treasurer; Charles P. Howard, secretary.



THE WM. ROGERS MANUFACTURING COMPANY.

Hartford is the birthplace of the electro-plating industry in America, as applied to table ware, Asa H. and William Rogers, under the partnership name of Rogers Brothers, having in 1846 started the business in a cellar at No. 6 State street. In 1851, they formed a joint stock company, and built the factory at the corner of Trumbull and Hicks streets, now occupied by P. Jewell & Sons. In 1857, William Rogers left the Rogers Brothers Manufacturing Company, and started Rogers, Smith & Co., on Mechanic street, and in 1862, both the above companies ceased to do business. In 1865, William Rogers again entered the field as the Wm. Rogers Manufacturing Company, on the corner of Front and Grove streets, and in 1870 William H. Watrous, with his uncle Asa H. Rogers, a member of the original partnership, opened a factory on Asylum street, under the name of the Rogers Cutlery Company. In 1879, the two concerns made a contract, running for twenty-five years, to do a joint business under the exclusive control of William H. Watrous, who became owner of one-half the capital stock of The Wm. Rogers Manufacturing Company, and has since been president, treasurer, and sole manager of the united interests.

Having outgrown the premises at the corner of Front and Grove

streets, the union moved, in 1887, into their present quarters, Nos. 66-80 Market street, where they have ample room and facilities. Through both elegance of artistic designs, and superior thickness and durability of plating, they have largely added, since 1879, to the reputation of the Rogers imprint, already esteemed so valuable that costly legal battles have been fought for the trade-mark. Their sales exceed half a million a year, and are constantly enlarging. The market for their goods is not confined to the United States and Canada, but extends to Cuba, Mexico, South America, Australia, and Europe.—in short, to all parts of the civilized world where the best grades are demanded. They build their own machinery. If all the blanks used in this establishment were made in Hartford, the production would require a factory as large as Colt's armory, and would add several thousand to the population of the city.

They employ over 140 hands, and pay \$50,000 annually in wages.

The officers are, William H. Watrous, president, treasurer, and general manager, and George W. Watrous, secretary. The capital stock of \$25,000 is held in three or four hands.

THE PITKIN BROTHERS & CO. IRON WORKS.

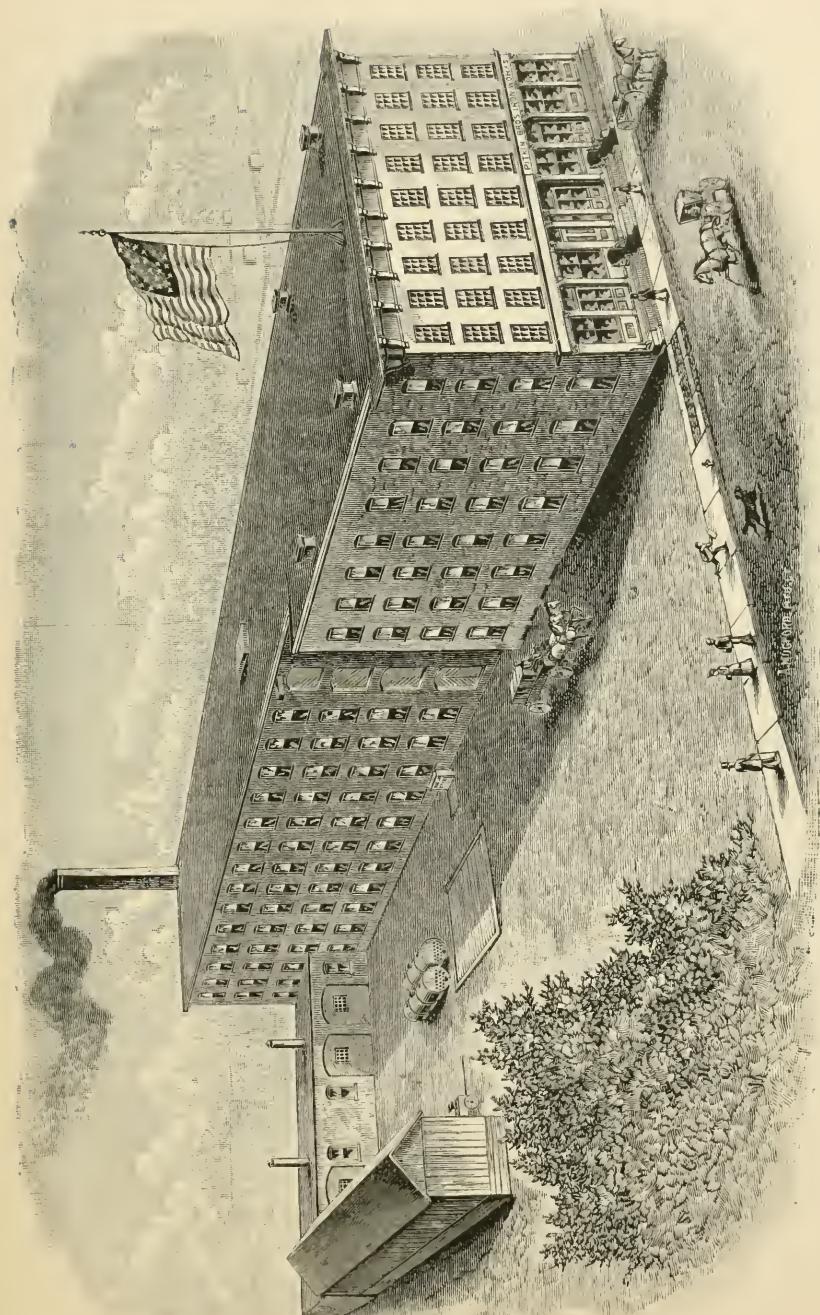
Organized in 1849 as Bidwell, Pitkin & Co., and changed to the present form in 1860, this firm ranks among the most prominent in the country in the manufacture of steam boilers, iron and steel-plate work, steam engines, feed-water heaters, and steam supplies. Their low pressure steam and hot water heating apparatus has a large sale throughout the northern States, and to a less extent in Canada.

Of the forty churches heated and ventilated by the system of which they are the inventors, the contracts in some of the largest, including Dr. Hall's on Fifth Avenue, New York City, were awarded to them on the merits of the system over numerous competitors, with little regard to other bids either above or below.

In 1873, the board of American engineers* at the Vienna exposi-

* The following extracts are from a letter written by T. R. Pickering, engineer U. S. Department, Vienna Exposition, bearing date, Vienna, July 23, 1873:

... "Your boiler was subjected to the customary hydrostatic test, and it was declared by the officer in charge to be the only one of the entire collection at this exposition which stood the cold water test without leaking. And now the boiler has been in constant use nearly two and a half months, and has, to the surprise of every one (including myself), supplied our department with all the steam we need, and that with very easy firing and poor coal." . . . "I am now, more than ever, impressed with the economy and safety of this style of boiler."



THE PIIKIN BROTHERS & CO. IRON WORKS.

tion, solicited Pitkin Brothers & Co. to send thither a seventy-horse-power boiler to run the machinery of the American department. The boiler did such excellent service that it brought a high award and was purchased by a foreign house for its own use.

When the Connecticut Steam Heating Co. was organized in 1854 to manufacture, under the patents of Stephen J. Gold, the first steam heating apparatus ever invented wherein the water returns to the boiler by gravity without mechanical appliances, A. P. Pitkin, one of the directors, was paid two thousand dollars a year to visit the shop at New Haven one day in each week. Every system where the water thus returns embodies the vital principle of Gold's invention.

As a dealer in lead pipe, A. P. Pitkin early recognized the perils from lead poisoning, and applied himself to the task of discovering a practical remedy. After much travel and no small difficulty in finding a house that would consent to fit up to do the requisite mechanical work, he succeeded in 1855 in introducing, as a substitute, the first galvanized pipe ever used in cities for the distribution of water, Hartford having led the way in the adoption of the method. It has since come into almost universal use, and millions of feet are made annually.

The firm have also been large manufacturers and builders of gas works, having established over thirty plants in cities, towns, and villages. They have, besides, recently built eighteen of the Loomis patent water and fuel gas works.

Of the workmen who, during the past forty years, have learned their trade of Pitkin Brothers & Co., eight have engaged in successful business for themselves in various cities.

For a long period the hours which A. P. Pitkin could snatch from sleep and the cares of business were mostly devoted to the preparation of a genealogy of the Pitkin family. The elegant volume embodying the fruits of all this toil, published in 1887, will remain an enduring monument, built by a loyal son to preserve the records of a distinguished line.

The firm, consisting of Albert P., Norman T., and Charles A. Pitkin, employs 100 men, and pays \$62,000 yearly in wages.

THE PRATT & WHITNEY COMPANY.

In 1852, Francis A. Pratt came to Hartford to take a position in the pistol factory of Colonel Colt at the solicitation of Samuel H. Bachelor, one of the subordinate chiefs in the establishment. In 1854, he accepted the superintendency of the Phoenix Iron Works, and accompanied by Amos W. Whitney, his life-long associate, as assistant, remained with the firm till 1861. The year before closing the connection both of the young men resolved to open a shop of their own, and accordingly in the summer of 1860 hired a room on Potter street, doing some of their first work for the Willimantic Linen Company. The next February they were burned out by a fire which caught on the contiguous premises, but a month later were settled in Wood's Building in the rear of the *Times* office, where they continued to spread through one room after another till all the available space was outgrown by the expansion of the business. In 1862, Messrs. Pratt & Whitney took into the partnership Monroe Stannard of New Britain, each contributing \$1,200, and the association has since remained unbroken.

The firm, in 1865, erected the first building on the present site, a structure of four stories containing forty thousand square feet of flooring. It was ready for occupancy the following March. From time to time others have been added till the plant now occupies about three acres, equipped throughout with the most approved appliances for protection against fire, for the comfort of the hands, and for the convenient and economical dispatch of work. The property lies on a narrow strip of land between Park river and the tracks of the Consolidated and of the New England railways, about one-third of a mile from the passenger station. Side tracks admit heavy freights directly to the doors.

Beginning with the manufacture of machine tools, gun tools, and tools for the makers of sewing machines, the firm has gradually extended its lines till a partial catalogue of its product fills hundreds of pages. Here, in applied mechanics, the resources of science and art have been long and conscientiously devoted to the task of embodying the ideal in the real. A poor piece of work was never knowingly allowed to be done on the premises. To the mind of every one con-

versant with the business the imprint of the establishment signifies simplicity, strength, precision, elegance, durability, and complete adaptation of means to ends. Essential as is the question of prices and profits, it has here always ranked secondary to the question of materials and workmanship.

On taking an inventory shortly after removal from Wood's Building to the new factory, the firm found that net assets of \$3,600, in 1862, had grown during the interval of four years to the handsome sum of \$75,000, a striking evidence of good management amid general prosperity. At this time Roswell F. Blodgett and Seth W. Bishop were admitted to an equal interest with the other members in the partnership. During the next three years they made and put in the business a clean profit of \$100,000. July, 1869, under a charter from the State, The Pratt & Whitney Company was incorporated with a capital of \$350,000, afterwards increased from earnings to \$500,000.

Soon after the close of the Franco-German war, in 1870, an agent of the company visited Prussia, and discovered that both imperial and private gun factories were equipped with inferior tools and machinery, and that the national armories were bare. He brought the merits of The Pratt & Whitney Company to the attention of a Berlin engineer, who became deeply interested, and who a few months later called Mr. Pratt thither. The latter started at once, and after an absence of six weeks, two of which were spent at Berlin, returned to Hartford with orders from the German Government for gun machinery to the value of \$350,000.

Within the next three years Mr. Pratt made three trips to Berlin, taking orders and delivering to the government goods worth over a million and a quarter dollars. While the panic of 1873 prostrated the industries of the United States, the company were kept busy on European orders till 1875.

From Hamburg, the port of delivery, the war office made distribution of the machinery to three different imperial gun factories. By a supplementary contract The Pratt & Whitney Co. agreed to superintend its erection and to instruct native mechanics how to operate it. So delighted were the authorities with the results, that, departing from precedent, they forwarded a letter from which the following is an extract :

"The Pratt & Whitney Co. has furnished the royal armories of Spandau, Erfurt, and Danzig with plants of machinery which execute the work with such nicety and precision as to save one-half the wages, and to render the government in no small degree independent of the power and skill of the workmen."

The company made an invaluable contribution to science not less than the mechanical arts by producing, after years of effort and at great expense, a machine for exact and uniform measurements. The troubles which, from lack of standard gauges, beset every large shop, and the growing demand for the production of interchangeable bolts and nuts, early in the sixties led to the general agitation of the subject among mechanical engineers, especially those connected with the building and repair shops of railways, with the view of finding, if possible, a remedy for the evil.

For a long time the discussion brought no practical results. At length, early in 1879, William A. Rogers, then professor of astronomy at Harvard College, aided by George M. Bond, a graduate of the Stevens Institute of Technology, and both backed by the skill and resources of The Pratt & Whitney Company, commenced a series of efforts, continued through the three following years, to determine the exact length of the standard foot, and they also elaborated a comparator for absolutely correct measurements within a limit of $\frac{1}{50000}$ of an inch. When they began the length of the yard and of its subdivisions varied endlessly with the number of yard sticks. In London and Paris, Professor Rogers obtained a reliable transfer of both the yard and the metre, and with the co-operation of the U. S. coast survey, the most delicate and exhaustive comparisons of the standard bars prepared by him for the use of the company, with the standard yard designated "Bronze No. 11," were completed, thus giving it a set of standards upon which entire reliance can be placed. Both the methods pursued and the results attained have been endorsed by the highest authorities.*

Among the benefits secured a few may be mentioned by way of illustration. Railways now find it practicable to have all bolts and nuts of any one size perfectly interchangeable. The adoption of

* See report of the Committee on Gauges, of the American Society of Mechanical Engineers, presented at the meeting in New York City, November, 1882.

definite diameters for the centers and tires of locomotive driving-wheels has reduced the number of sizes from infinitude to six. The production of pipe and fittings has been brought to uniformity. Standard gauges for these and other uses, too many to be enumerated, are made by The Pratt & Whitney Co.

At the time of this writing, there are on the books of the company unfilled German orders for about twenty machines, and orders from London for gun tools and sample guns of new patterns. For the United States government they are making the Hotchkiss rapid firing gun from one to six pounders. They manufacture the Gardner machine guns, owning the patents.

Net earnings exceeding the amount of the capital have been applied to construction and machinery, and still the pressure of an enlarging business outstrips the facilities for doing it.

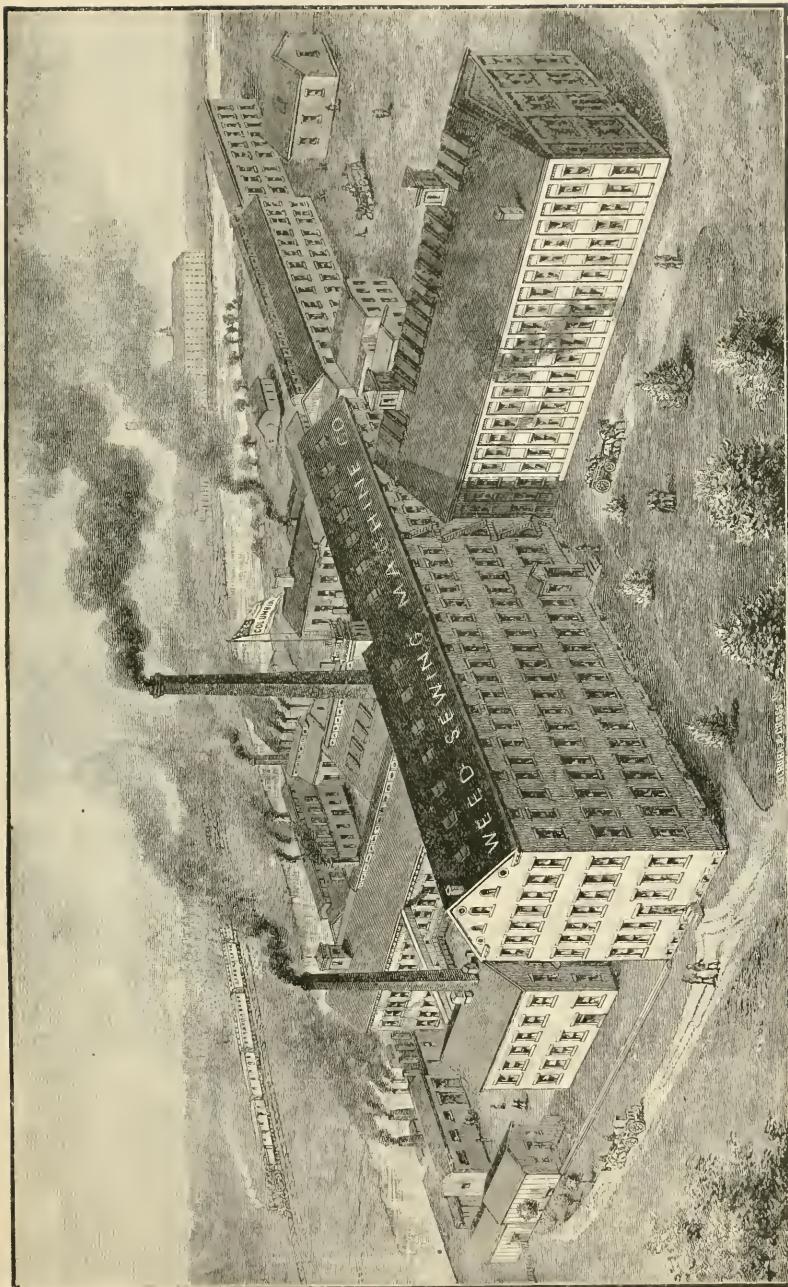
The company employ 700 men, and pay over \$400,000 yearly in wages.

The officers are Francis A. Pratt, president; R. F. Blodgett, secretary; M. W. Graves, treasurer; and Amos Whitney, superintendent.

THE WEED SEWING-MACHINE COMPANY.

The original machine patented by T. E. Weed was made at Nashua, N. H., and later at St. Johns, N. B. The company controlling the patents (first formed in West Winsted, Conn., Feb. 4, 1863) moved to Hartford in July, 1865, and reorganized with Jonathan S. Niles as president, George M. Welch as secretary and treasurer, and George A. Fairfield as superintendent. A contract for building 15,000 machines was then placed with Pratt, Whitney & Co., who were located in Wood's Building, near the junction of Main and Grove streets. It is quite probable that this order had a part in influencing the firm to erect a factory of their own during the year. In May, 1886, a second large contract for machines was entered into with the same parties, reinforced by George A. Fairfield and Charles E. Billings. Succeeding Mr. Niles, Homer Blanchard was president from 1867 to August, 1876; George A. Fairfield from August, 1876, to July, 1881; J. W. Beach from July, 1881, to 1887; and on the death of Mr. Beach, George H. Day, the treasurer, was elected president also.

In May, 1869, a part of the present property on Capitol avenue



THE WEED SEWING-MACHINE COMPANY BUILDING.

was purchased of E. M. Archibald, agent for the British government. Owing to the great popularity of the Weed machine, and to the increasing volume of orders, Sharps' Rifle Factory adjoining was leased, in 1871, for a term of five years, and purchased in 1874.

In the special line on which the company began, it has kept fully abreast of the times by the number and value of its improvements and inventions. While the name remains to perpetuate the fame of the founder, not a feature of the original machine is retained. The second combination of contrivances have largely followed the first, as will the present when anything better can be found to take their place. As a result of ceaseless efforts to produce the best, the demand from all quarters of the globe continues. Ten years ago or more, intensity of competition led the trade generally to adopt the installment plan in distributing their goods, and, with hardly an exception, manufacturers suffered heavily from the viciousness of the system. The Weed now sell directly to customers or dealers without the intervention of traveling salesmen and expensive branch offices, giving the public the benefit of these economies in reduction of price.

Its reputation for fine and durable work, its large plant and efficient corps of native American mechanics, brought to the establishment and to Hartford, in 1878, a new industry which, in magnitude and importance, overshades the production of sewing-machines, large as this continues to be. When, in May of that year, Col. A. A. Pope rode circuitously from the station to the office of the company on a bicycle of English make, excited throngs swarmed into the streets through which he passed to catch a view of the strange vehicle. Hundreds of boys took up the line of pursuit, only to find themselves in a few minutes left hopelessly behind. As the Colonel disappeared through the door, the surprise and curiosity were transferred from the outside to the inside of the factory. The object of the visit was not only to place a preliminary order, but to arrange for the manufacture of similar machines on a large scale. The interview, with the business connections growing out of it, have proved eminently satisfactory to both parties.

The first lot of fifty bicycles was turned out in season for the fair and races at Framingham, Mass., Sept. 17, 1878. From that time onward the output, yearly increasing, has amounted to many thou-

sands, and the line has been extended to tricycles, "safeties," and "tandems." A very large proportion of the machinery used in the manufacture has been invented by men belonging to the establishment, and is made on the premises. Many knotty mechanical problems have temporarily interrupted the onward flow of development, but the ingenuity of officers and men has proved adequate to their solution.

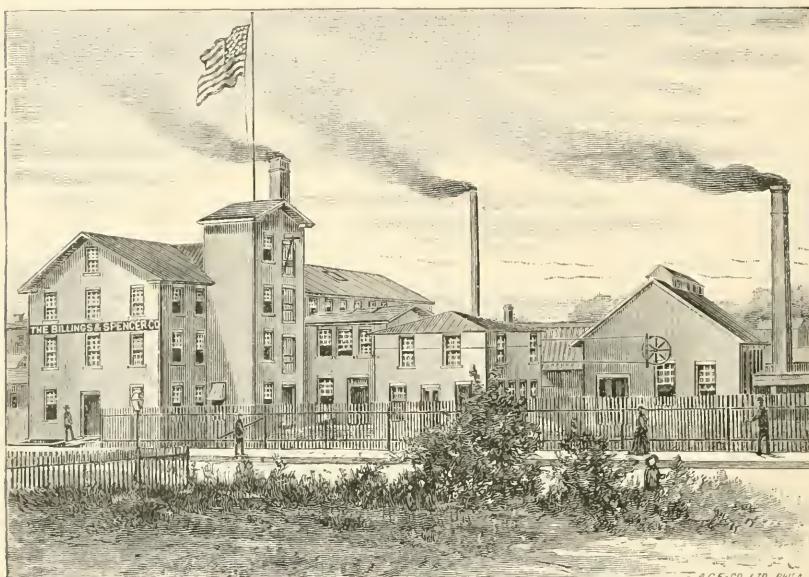
From their utility as a means of quick and pleasant travel, these machines and their accessories, little known ten years ago, and popularly regarded as a curious but idle toy, have become the staple of a very large trade. Among the different styles on the market, the "Columbias" steadily hold the lead through unequaled excellence of design and workmanship, not less than through the enterprise of the separate company which promotes their use and sale.

Struck, while passing through the factory, by the elaborate care taken to adjust the axis of the wheel so that it should coincide exactly with the mathematical center, the writer inquired of president Day in reference to the advantages gained by this extreme, not to say costly, precision. He replied that a slight deviation from accuracy might pass unnoticed for years, but in time would certainly appear and shorten the life of the machine. To the intelligent and scrupulous care bestowed upon the minutest details of construction, the company largely owes its reputation and present prosperity. Wherever tried, at home, on the racing path, or on continental journeys, their work never disappoints the owner.

Since 1880, the Weed Company has often been solicited to enlarge its facilities and make similar machines for other concerns; but having experienced the benefit of close union of effort between maker and seller, based on singleness of interest, it has rejected many offers of contracts, and in adhering to a single line, has been assured a continuous and steadily increasing business.

In the winter of 1887-8, the company opened a large and airy reading-room on the sunny side of the building for use during the noon hour. Besides the nucleus of a library, which will be added to from time to time, it is furnished with the leading mechanical papers of the country, and with the dailies of the city. Coffee of the best quality is also served to the workmen at cost or a trifle below.

The company employs 250 hands, and pays over \$150,000 a year in wages. Its officers are, George H. Day, president and treasurer; F. E. Belden, secretary; and John Knous, superintendent. Capital, \$240,000.



THE BILLINGS & SPENCER COMPANY.

The history of this company gives the story of the creation of a new and valuable industry. Drop forgings were probably introduced into the United States by Samuel Colt, and, to a limited extent, were soon afterwards made use of at the armories in Springfield, Mass., but the devices were crude, the work imperfect, and the limits of practical application narrow. For a long time the latent possibilities in the system waited for the right man to develop them. It remained for Charles E. Billings, organizer and president of this company, by numerous improvements and inventions, to raise it from a lowly position as an unimportant adjunct of the machine shop to its present dignity.

Having worked six years at Colt's Armory as tool-maker and die-sinker, Mr. Billings was called in 1862 to the gun factories of E. Remington & Sons, where, in the teeth of doubt and mild oppo-

sition, he built up a plant for drop forgings which increased the efficiency of labor forty fold in the production of several parts of their pistol. In 1865, he returned to Hartford, acting for the next three years as superintendent of the manufacturing department at Weed's Sewing Machine Company. After a short absence spent at Amherst, Mass., he again settled in Hartford in 1869, and organized the Billings & Spencer Company, which, at the outset, experienced severe reverses in the manufacture of the Roper Sporting Arms, but which, in 1870, took up drop forgings as a specialty, and soon advanced to a commanding position.

By this method bars of iron, steel, or copper can be transformed into pieces of required shape and size, with rapidity and precision. The dies are made in the shop from blocks of the best bar steel, ranging from three and one-half to fourteen inches square. In these are cut the form of the article to be forged, generally one-half of the thickness in the lower and the other half in the upper die, and both are hardened to the proper temper. One is then keyed fast to the base or anvil, and its counterpart to the hammer of the drop. Where the form to be produced is complicated, red-hot bars are submitted to blows of the hammers in a series of dies till the exact figure desired is reached. Guided by the uprights of powerful frames, hammers, weighing from three to fifteen hundred pounds, fall from one to six feet. A few rapid blows complete this part of the process. The forgings are then passed on to other rooms in the shop to be finished, polished, and in many cases to be assembled into tools. At the present time the company has thirty-eight drop hammers.

The catalogue of the company embraces a large variety of standard articles, made of sizes to suit the trade, and carried in stock. It includes screw-plates, dies, reamers, wrenches, ratchet drills, lathe dogs, clamps, lathe tools, combination pliers admitting a wide range of adjustment, vises, surface gauges, sewing-machine shuttles, thumb-screws, pistol frames and barrels, breech-loading shot guns, solid steel eye-bolts, carbon tongs, and similar articles, many being the invention of Mr. Billings himself. His adjustable pocket-wrench, graduated to $\frac{1}{32}$ of an inch, is specially suited to the bicycle, and nearly 200,000 have been sold. Manufacturers of elec-

trical apparatus, sewing machines, gas fittings, guns, pistols, pumps, and other standard goods, have many pieces which enter into their product forged here.

An all-pervasive force in the development of the enterprise has been the inventive talent of Mr. Billings. A single instance will illustrate: While visiting the Edison Electric Works in 1886, he noticed the method of making commutator-bars. These are pieces of copper set at an angle to each other. The horizontal blades, thin and wedge-shaped, separated from each other by mica, asbestos, or some other non-conducting substance, are placed side by side around the shaft of the dynamo, and bound firmly together. Electricity is generated by the friction of metallic brushes against the edges of the bars, revolving at high speed. The current passes through the upright arm, and thence into coils of wire for storage and transmission.

The bars were made in two pieces, united by pins and solder. In the conversation which arose the electrician of the works expressed the opinion that they could not be produced otherwise. On returning home, Mr. Billings cut the dies, and in two months sent to the Edison Company an invoice of bars forged in a single piece from pure copper, and having a homogeneous molecular structure throughout. The fibres also run parallel with the generated currents of electricity, and the material is of the greatest possible density. By this invention the cost of the bars was greatly diminished, and their efficiency increased. They are coming into general use.

The works are located between Lawrence and Broad streets. The main buildings are covered with corrugated iron. The dies are stored in fire-proof brick vaults, warmed sufficiently by steam to prevent rust, and separated by a safe distance from the other buildings. As an insurance of \$80,000 was formerly carried on the dies alone, the wisdom of the step is manifest. The manufactured stock is also stored in another fire-proof vault similarly kept dry and warm.

The company employs about 80 hands, and pays \$50,000 a year in wages.

The capital of the company, organized under a liberal charter, is \$125,000, with the privilege of increasing to \$300,000. Its officers are, Charles E. Billings, president and superintendent; E. H. Stocker, secretary; Lucius H. Holt, treasurer; and F. C. Billings, assistant superintendent.

THE CUSHMAN CHUCK COMPANY.

The manufacture of chucks was begun in 1863, by A. F. Cushman, in a small way, without capital in money, but with a goodly capital in ingenuity, industry, perseverance, and a determination which surmounted, one by one, the many obstacles that obstructed the pathway to success. Alone, he often worked late into the night, perfecting his invention and preparing the earlier samples for the market. As the value of the article became more widely known, the sales enlarged, till the establishment now employs over sixty men, and finds its new factory on Cushman street somewhat cramped for the growing volume of business. The goods are shipped directly to the principal cities of the world, nearly one-third of the total product going to London, Paris, and Berlin. In 1885, it was converted into a stock company, with a capital of \$80,000, all of which, except a few shares, is held by the original owner.

A. F. Cushman, president; E. L. Cushman, secretary and treasurer.

A. S. COOK.

In 1850, Mr. Cook entered the pistol factory of Colonel Colt, where he remained as workman, foreman, and contractor for the next fifteen years. After a short residence in Canada, he returned to Hartford, and in 1869 began to build machinery for the National Screw Company of this city. The American Screw Company of Providence had long held a practical monopoly in the United States, but before the expiration of their main patent their young rival in Hartford reached equally good results by dissimilar devices. The new company built a factory on Sheldon street, and in three or four years attained a degree of success which caused the stock to command a premium of 140 per cent. However, in the combinations which followed, the owners sold to their Providence competitor in 1875, and the plant was removed elsewhere.

For five years Russell & Erwin of New Britain had been the selling agents of the National to the mutual advantage of both parties. At the expiration of the contract the newly elected managers of the National declined to renew it, when the firm determined to enter the field on their own account, and accordingly, in 1875,

Mr. Cook built for them a plant with a capacity for producing ten thousand gross of screws in ten hours.

Mr. Cook invented the header for forming the heads on the wire, and the combined threader and pointer for cutting the spiral on the blank, and at the same time producing the gimlet-point. The processes are covered by two broad patents taken out by Mr. Cook, and are admitted by leading manufacturers to be the most effective contrivances for the purpose ever devised.

In 1872, Mr. Cook moved to the new building of The Pratt & Whitney Co., but the next year returned to the armory, where he has since remained. The mechanical excellence of the work turned out in this shop, reinforced by the improvements and inventions of Mr. Cook, so broadened the demand for his machinery that he has been called upon to equip many large screw factories both in the United States and in Europe.

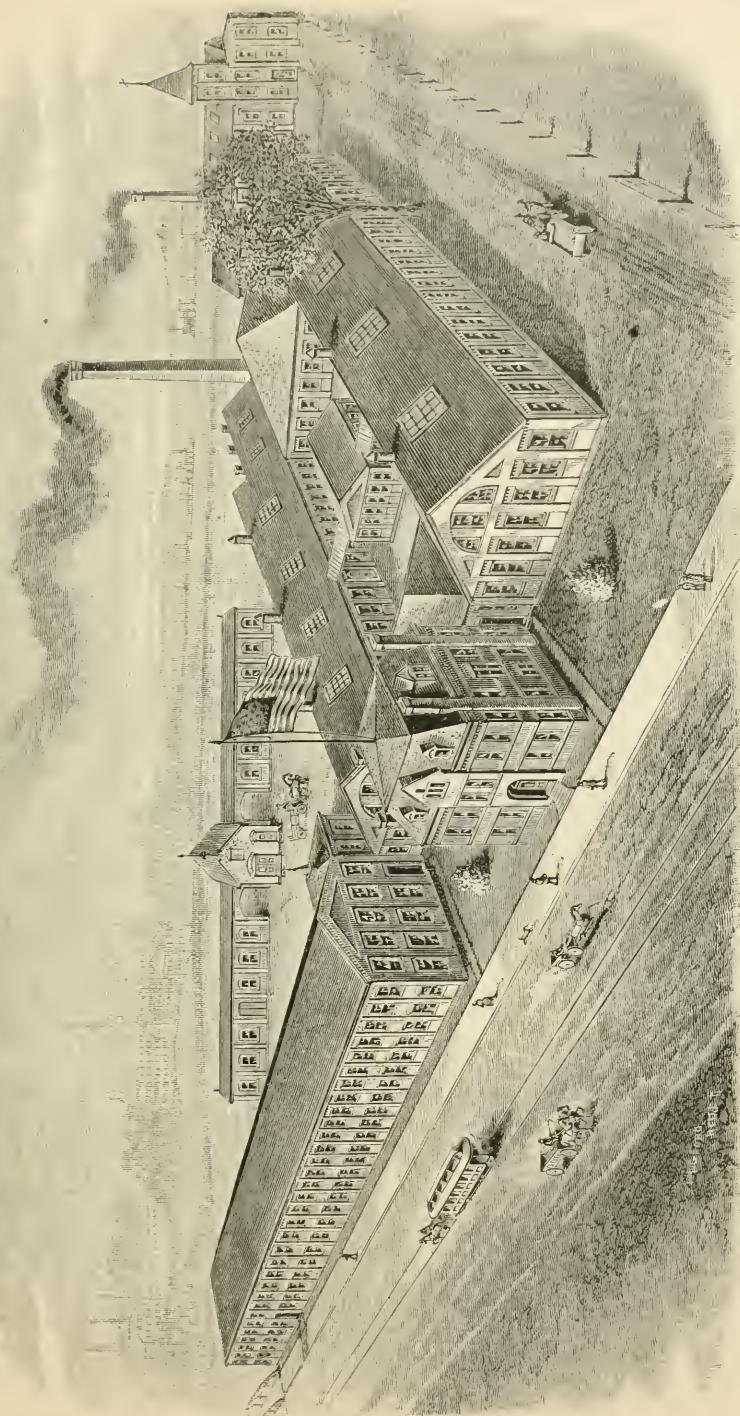
In 1872, Mr. Cook began to manufacture Stephens' patent parallel vise, and has since produced over thirty thousand. Among other leading articles he has also made pipe-tapping machines, bolt-cutters, die-threaders, lag-screw threaders, dynamos, electric lamps, etc. For some of the goods the export demand has been quite important.

Mr. Cook is assisted by his sons M. F. and John F., both graduates of the high school, and both practical mechanics.

He employs ordinarily about 50 men, and pays \$40,000 yearly in wages.

HARTFORD MACHINE SCREW COMPANY.

The Hartford Machine Screw Company was organized July 24, 1876, on a paid-up capital of \$40,000, with the privilege of increase to \$200,000. For a number of years the business had been prosecuted by a partnership, and had failed to be remunerative. While its affairs languished in a condition of uncertainty respecting the ultimate outcome, George A. Fairfield, then president of the Weed Sewing-Machine Company, at the solicitation of friends, and under the assurance of adequate pecuniary support, consented to take charge of the enterprise. A charter was at once obtained from the State, and a corporation formed. Mr. Fairfield was elected president, and Daniel Morrell, secretary and treasurer. For some time Mr. Fairfield continued



HARTFORD MACHINE SCREW COMPANY'S BUILDINGS.

at the head of the Weed, giving incidental attention to the screw business, which was carried on in a small room under the same roof. As the possibilities of the system became more apparent he resigned the presidency of the Weed, and has since devoted his time and energies to the exclusive service of the Screw Company, ably seconded by Mr. Morrell, a man of wide experience and ample means, and also, for several years after the reorganization, by Christopher M. Spencer, as superintendent and mechanical engineer.

The original patents were taken out by Mr. Spencer, more widely known, perhaps, as the inventor of the rifle that bears his name. Since his retirement many valuable improvements and inventions have been made by the officers and employés of the establishment, which have so added to the efficiency of the process and to the perfection of the work, that the company and its licensees now largely control the production by automatic devices of machine screws and kindred work.

The sizes range from the heaviest engine and mill work to the smallest parts entering into the construction of a watch,—screws so minute that to the unaided eye they resemble grains of dust.

Many of the largest manufacturers in the United States and Europe have adopted the system, paying a compensation and subject to restrictions satisfactory to the parent company. Its members control and run for western trade a large branch at Elyria, Ohio. They are also somewhat interested in a corporation recently organized in Halifax, England, which has secured the patents for Great Britain.

Up to the time of Mr. Spencer's first invention, machine screws were made either by the old and tedious method of turning and threading on an engine lathe, or by the use of a monitor-head machine, run by hand, and each requiring a separate operative. By the process as elaborated in Hartford, an unskilled hand can successfully attend from five to fifteen machines, according to the size and character of the work. On large screws, the amount accomplished by an automatic and monitor differ but little, the greater productiveness of the former depending on the larger number a single workman can run. On small screws, however, and other minute pieces, the superior efficiency of the automatic is hardly more marked in the quantity than in the quality of its results.

The coarser and cheaper grades of goods, such as enter into the construction of buildings and ordinary hardware, are not made here, the efforts of the company being restricted to the higher qualities of screws, pins, and other turned work, used in the manufacture of locomotives, engines, machine tools, electrical appliances, printing presses, sewing and knitting machines, guns and pistols, gas fixtures, clocks and watches, optical and surgical instruments, jewelry, and for a wide variety of similar purposes.

Almost as diverse as the ends to which they are applied are the materials employed, including iron, steel, zinc, brass, copper, German silver, sterling silver, and gold. Here are consumed annually not less than 1,500 tons of bar iron, 500 tons of Bessemer steel in the rough, 750 tons of bright Bessemer steel rods, and 250,000 pounds of brass. Of the metals enumerated, this establishment, which moves on its course so noiselessly that many of our people are almost, if not quite, unaware of its existence, probably uses a larger amount than any other concern in the city, if not in the State. The number of active customers now on its books approximates, if it does not exceed, three thousand.

The factory, built in 1880, and owned by the company, is located at 476 Capitol avenue. Aside from dividends, net earnings have gone largely into the plant and improvements, till the property is now understood to be very valuable. Of the capital stock of \$100,000, not a share ever appears on the market, and quotations of price are unknown.

They employ 250 men and 25 women, and disburse \$125,000 annually in wages.

The officers are, George A. Fairfield, president and treasurer; Daniel Morrell, secretary; J. K. Lanman, assistant treasurer; and C. H. Prentice, assistant secretary.

The company is now breaking ground for extensive additions to the buildings and plant.

HARTFORD WOVEN WIRE MATTRESS COMPANY.

A few Hartford gentlemen, in viewing the attractions of a local fair, were so impressed with the merits of a woven wire mattress on exhibition, that, not long afterwards, Henry Bissell, the late William

Matson, Stiles D. Sperry, and George B. Hawley, bought the patent on the weaving then owned by one Wegman. Important changes and improvements were needed to make the article commercially valuable. A clumsy iron frame brought its weight up to 200 pounds, but J. N. Farnham, who was employed for the purpose, invented a light and portable frame, which reduced the weight of the entire mattress to sixty-five pounds.

In 1869, the purchasers of the patent, with S. T. Wolcott and Charles Green, organized a company, and the following year began the manufacture of the woven wire mattress in a small room in The Case, Lockwood & Brainard Co. building on Pearl street. In 1871, the late George C. Perkins of this city bought a controlling interest, and succeeded, by advertising and push, in creating a wide demand for the goods, and thus in establishing a permanent and profitable business. His energy and skill in management are recognized by his successors as potent factors in bringing to the enterprise quick and notable prosperity.

Mr. Perkins died in September, 1875. W. J. Myers was elected treasurer in March, 1876, and retired in March, '84. Henry Roberts became secretary in March, 1880, and president in January, 1884.

The company remained in its original quarters on Pearl street till 1886, when, to meet the demands of a growing trade, it built a factory of its own at the corner of Laurel street and Capitol avenue. At the time of removal, it was employing about fifty men, and the number has since been doubled. The popularity of the mattress increases with use, and they are now shipped to all parts of the globe where the comforts of civilization are known.

Besides the above specialty, the company also produces a large line of iron and brass bedsteads for private, hospital, asylum, and institution use generally; also woven-wire door mats, a recent invention, which have met a flattering reception. They deal heavily in woven-wire car seats and back cushions, cots, cribs, folding bedsteads, and various other articles embodying wire fabrics.

The machinery for weaving the wire is simple, ingenious, and in operation never fails to interest the spectator. The wire itself is drawn from the best imported steel rods, specially made for the purpose. Of this each mattress contains about one mile in length, and

the tensile strain on each square foot is about fifteen hundred pounds.

The factory is thoroughly equipped, having, among other conveniences, a side track by which car-load lots are received and shipped at the door. Its present capacity enables it to turn out 500 mattresses a day, in addition to other specialties, and it owns an abundance of land adjoining for the further extension of the plant. It employs over 100 hands, and disburses about \$35,000 yearly in wages. Capital \$60,000. Officers, Henry Roberts, president and treasurer; J. E. Godbee, secretary.

THE HARTFORD RUBBER WORKS COMPANY.

The factory of this company, built in 1881 by John W. Gray, is located beside the tracks of the New York, New Haven & Hartford and New England railways, about one and one-half miles south of the Hartford station, and close to the Parkville station of the latter road. They began with the manufacture of a superior grade of goods for mechanical purposes, such as bicycle tires, steamship pump valves, pure moulded boiler gaskets, hose, tubings, etc. Recently a full line of druggists' rubber sundries has been added. The business has prospered from the outset. Capital, \$20,000. Incorporated July, 1888. John W. Gray, president; Henry H. Francis, secretary; John S. Gray, treasurer.

THE GROVE WORKS DYE-WOOD MILLS.

The manufactory on Potter street, 200 by 65 feet, and three stories high, is massively built for the storage of material and the operation of the powerful machinery required in the preparation of ground dye-woods. The woods here chipped, ground, and made ready for the market are brought from Africa, Brazil, Central America, and the West Indies, and include logwood, camwood, barwood, limewood, fustic, sanderswood, and Nicaragua. To a large degree the work is performed by automatic machinery invented expressly for the use of the establishment. The production of extract of indigo of a highly superior quality has long been somewhat of a specialty. New England manufacturers of textile fabrics are the principal, but by no means the only, patrons of the mills. The annual production reaches about \$300,000, constituting an important branch of the business of Beach & Co., to whom it belongs.

THE HARTFORD HAMMER COMPANY.

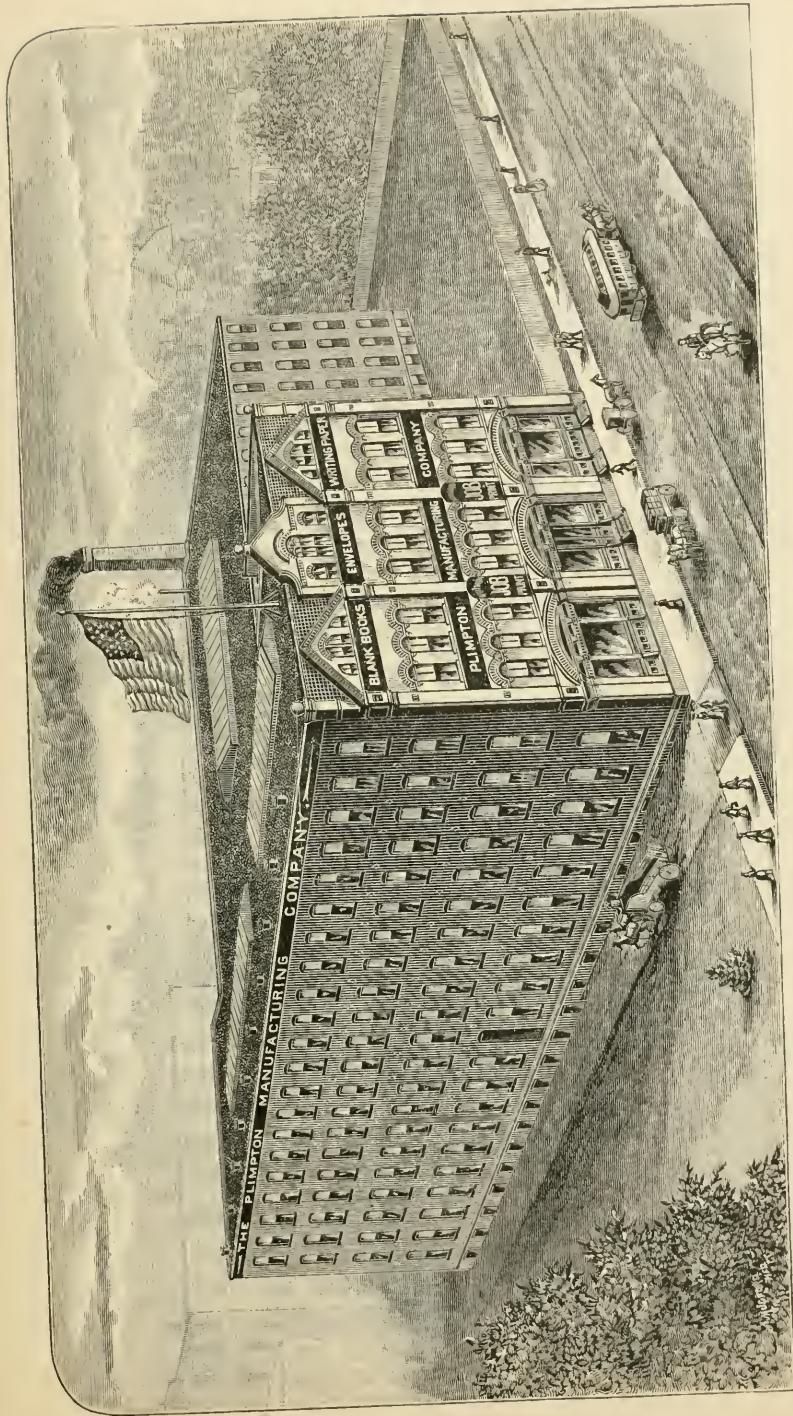
The Hartford Hammer Company, incorporated December, 1880, manufacture hammers, sledges, and mauls from the best crucible cast steel. In 1887, at the corner of Windsor and Suffield streets, the company built a factory 150 by 50 feet, which is equipped in all departments with the most approved machinery. The goods are of superior quality, and from the home office are not only distributed throughout the United States, but are largely sold to Australia and Great Britain. Through agencies handling the foreign trade they have also been supplied to the South American markets. They employ 50 men, and pay \$15,000 yearly in wages.

Samuel L. Way, president; Isaac Bragaw, treasurer; Charles L. Way, secretary.

THE PLIMPTON MANUFACTURING COMPANY.

Linus B. Plimpton, born at Southbridge, Mass., in 1830, having received a thorough mercantile training, began at Hartford, in 1865, the manufacture of envelopes. The early production was small, when compared with the present out-put, but the business prospered from the start, and was gradually enlarged to include paper, papeteries, and printing. In 1873, The Plimpton Manufacturing Company was organized, with L. B. Plimpton as president and general manager. In 1874, the new company entered the lists as bidders for making stamped envelopes for the government, and were successful in securing the prize. Many obstacles were thrown in their way by parties long interested in the successive quadrennial contracts, but all were overcome, and improvements so numerous and radical have since been made in appliances for doing the work, that inventions protected by patents have since enabled the company to underbid all competitors. The Morgan Envelope Company of Springfield, Mass., joined the Plimpton Company in the first contract with the government, and the association has continued till the present time. This branch of the work has always been conducted in a separate building, and so far as accounts and details are concerned, kept entirely by itself.

In 1886, to meet the growing demands of their general trade, the company built a factory for their own exclusive use on Pearl street. It is constructed of brick with stone trimmings, and has four floors



THE PLIMPTON MANUFACTURING COMPANY'S BUILDING.

above the basement, each containing seventeen thousand square feet. It is lighted by electricity, furnished with automatic fire extinguishers, and thoroughly provided with modern appliances for the convenient and economical dispatch of business.

Before the structure was fully completed, the spacious rooms were freely tendered to the Robert O. Tyler Post for the fair given under the auspices of that organization in December, 1886, for the benefit of disabled and needy veterans of the war, and for dependent widows and orphans. The profits realized during the week amounted to over ten thousand dollars.

The first floor above the street is used for offices, for the retail trade, and for the storage of stock; the second contains a complete equipment for job printing on a large scale; the third is principally devoted to the manufacture of envelopes, the annual product ranging above three hundred and fifty millions, and in part to the manufacture of envelope machinery, all that used by the firm being produced on the premises; on the fourth plain paper is ruled, and afterwards converted into a wide variety of tablets and blank books. On the upper floor also are made paper boxes in great quantities. The basement is largely given up to the storage of stock.

A statement of naked facts can convey no adequate conception of the perfection of the labor-saving contrivances in use, or of the ingenuity and toil expended in their evolution from the crude germs of twenty-three years ago. From paper made of such breadths as to avoid waste, envelopes are cut hundreds at a time with each fall of the knife. The sheets placed in bulk upon the table of the machine are picked up one by one by fingers that never tire, gummed, folded, impressed with the printed request to return to the writer (and at the government works with the postage stamp also) counted in packages of twenty-five each, and delivered at the outlet ready for boxing. With intelligence seemingly human, and with more than human exactness and endurance, the marvelous combinations of wood and iron fulfill their daily round, never making a miscount, and rarely even for an instant failing to turn out perfect work. Most of the improvements, which render the present machines so precise and effective, have been wrought out under the suggestions and directions of the officers of the company, and are protected by patents. It has been

the constant aim to do nothing by hand that could be done equally well or better by machinery, and to tolerate no imperfection of method remediable by inventive skill.

When designed in 1886, the factory on Pearl street, it was supposed by the managers, would furnish ample accommodations for the general trade for a long period to come, but so rapidly is the business extending that already every floor is crowded, and the margin for elbow room is becoming uncomfortably narrow.

The cost of plain paper stock annually consumed in both departments exceeds half a million of dollars.

At the New York office of the company, No. 312 Broadway, may be found a complete exhibit of all lines of goods produced by them. Either there or by correspondence with the main office at Hartford, the public can obtain information with regard to prices and specialties.

Since the transfer of the manufacture of United States stamped envelopes to Hartford, in 1874, the annual product has risen from one hundred and fifty to four hundred millions. The work, under the immediate supervision of Maro S. Chapman, is carried on in a building by itself, entirely separate from the rest of the business, while the post-office department has an agent of its own under the same roof to look after its interests, and to superintend the shipment of the goods to post-offices throughout the country on orders from Washington.

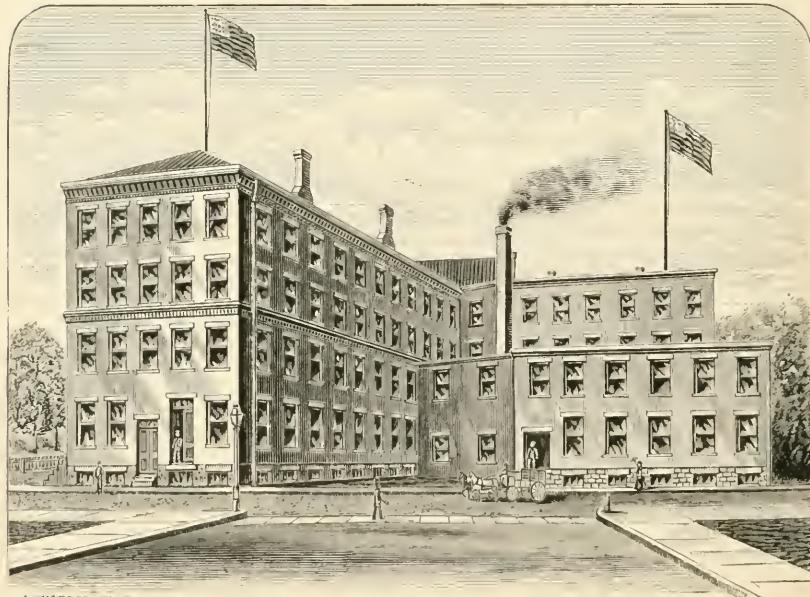
Owing to the invaluable inventions made and patented by the Plimpton company less help is employed by them than by the former contractors, though the production, meantime, has nearly trebled. Of the best grade of letter size envelopes, the price, exclusive of the value of the postage, has fallen from \$3.20 per thousand in 1874 to \$2.00 in 1889. The difference of \$1.20 per M., or sixty per cent. on the present selling price, saved by the ingenuity of Hartford brains and the efficiency of Hartford management, inures wholly to the benefit of the American people.

In 1884, the Postmaster-General adopted a newly invented machine for testing the strength of the paper used by contractors on different kinds of work for the department. After repeated trials, began in a somewhat unfriendly spirit, it was found that the

stock put into the stamped envelopes ranged considerably above the requirements of the bond.

The two factories combined make the Plimpton Company the largest producer of envelopes in the world. They employ 150 men and 250 women, and disburse \$160,000 annually in wages. The yearly output has grown from \$75,000 in the beginning to a million and a quarter of dollars, and is continually increasing.

The officers are, L. B. Plimpton, president; M. S. Chapman, vice-president; F. W. Plimpton, treasurer; and Frederick Plimpton, secretary.



GOVERNMENT ENVELOPE WORKS.

GEER'S HARTFORD CITY DIRECTORY.

In 1838, Elihu Geer opened the printing office now known as the Hartford Printing Company, and in 1841 bought the right of the City Directory, of which three numbers had been issued. The same year he brought out the first of the series which bears his name. It was reproduced in the edition for 1871, making sixteen pages. Gen. Geer was an enthusiast in the collection and publication of facts relating to Hartford and its growth. Year by year he enlarged the scope and size of the work, until it now embraces nearly six hundred pages, giving, in addition to the ordinary features of a directory, a concise history of the city, with its institutions, and a large array of miscellaneous but interesting facts. In the preparation of this volume, the directory has been in constant use, and some such experience is needed to give an adequate conception of the extent, variety, and value of the information which it contains. Enterprising publishers elsewhere have made the book their model.

Gen. Geer died March 27, 1887. The work is continued by his sons, who also carry on the business of book and job printing at 16 State street.

THE JOHNS-PRATT COMPANY.

An off-shoot from The Pratt & Cady Company, The Johns-Pratt Company was formed in 1886 to manufacture asbestos, under various patents of R. N. Pratt, H. W. Johns, and others, into packing of all descriptions, round, square, sheet, and molded in forms, for steam, water, chemical, and electrical work. This material forms the basis of all the goods here produced. From its capacity of resisting heat, and of securing perfect insulation, when properly treated, asbestos holds an unique place in its adaptation to many practical needs, that remained largely unsupplied till the recent development in Lancashire and Hartford of the multiform possibilities of the substance.

The company have succeeded in perfecting parts of valves used in large quantities by the Pratt & Cady Company, and controlled by them for electrical, engineering, and car-heating work, and are now engaged in elaborating an accumulator-cell, which promises to supersede hard rubber and glass. Their latest novelty is an asbestos shoe sole, more durable than leather, impervious to water, and through

its non-conductivity preventing the escape of the animal heat of the foot. Experiments now in progress warrant the belief that the article will soon be produced in a form suitable for the market, and will prove of great service to wearers.

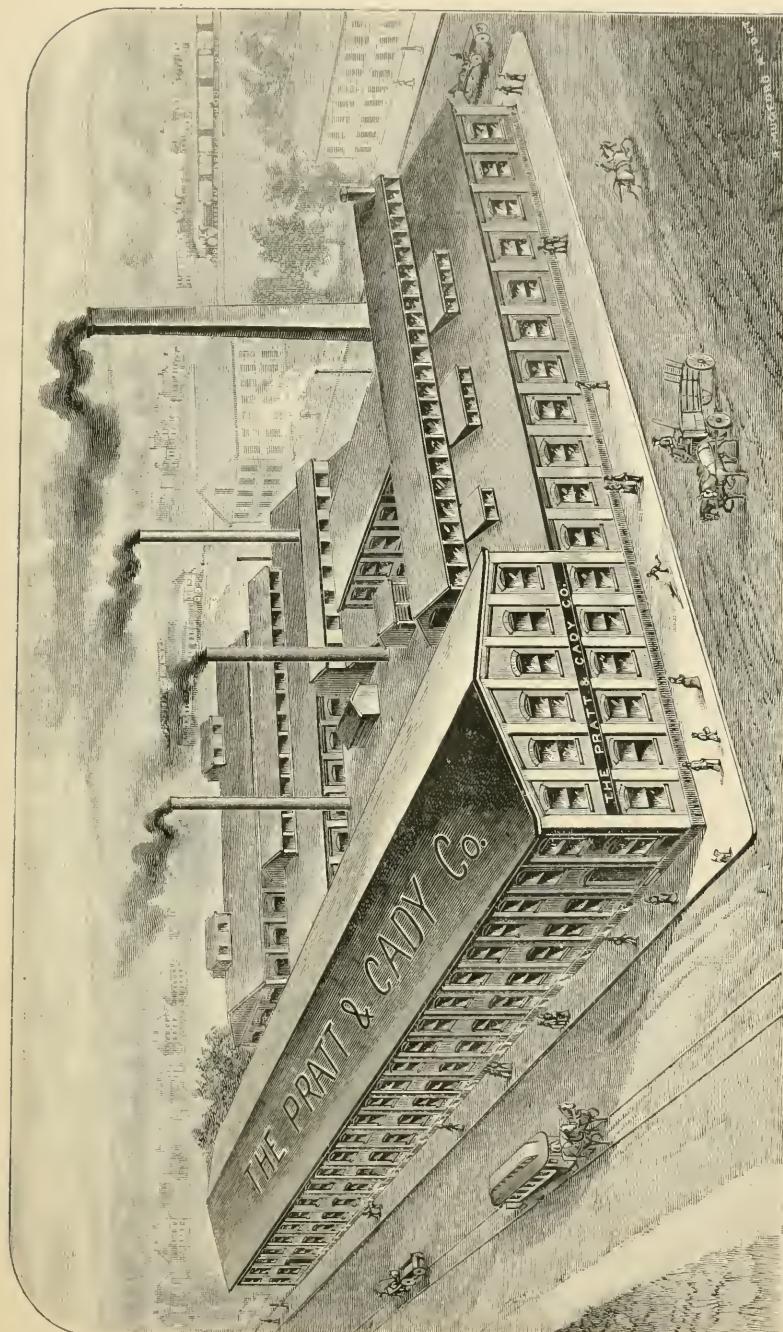
The company employ 15 hands, and pay \$9,000 annually in wages. It was organized with a capital of \$100,000, a part of which is reserved for the future development of the business. The factory is located on Capitol avenue, just beyond the Pratt & Cady Company. Its officers are, H. W. Johns of New York City, president; R. N. Pratt, treasurer; and Edward Hatch, secretary.

THE PRATT & CADY COMPANY.

The above establishment, which has grown rapidly into strength and prominence, began July 1, 1878, as The Steam Boiler Appliance Company, taking the patents of Francis A. and Rufus N. Pratt, and making return steam-traps and swinging check-valves, both of which have since come into extensive use in the United States and Great Britain. For four years their office was with The Pratt & Whitney Company, who manufactured the traps for them, the valves being made by contract in Bridgeport.

Having, in 1882, formed an incorporation under the present name, and increased the capital from \$50,000 to \$100,000, the company began the manufacture of their own goods in the Gillett Building on Union Place, adding another line known as the straightway swinging stop-valve. Business grew so rapidly that, finding more commodious quarters necessary, they bought a lot at the corner of Capitol avenue and Sigourney street, and erected their first building in 1883, having it ready for occupancy in September.

While visiting certain mills in Lancashire, England, in 1881, R. N. Pratt observed the uses of asbestos as applied to steam valves. The knowledge casually gained and not impressive at the moment assumed more importance after his return home, for, on reflection, he reached a belief that the material, properly treated, could be made highly valuable as an adjunct in the production of their special lines. Correspondence with the owners in England resulted in the purchase of the exclusive right to use the patents in the United States. The expectations of Mr. Pratt have been more than realized. The merits



THE PRATT & CADY COMPANY'S BUILDINGS.

of asbestos as here applied so broadened the demand for the goods that, in the spring of 1886, the capacity of the plant was greatly enlarged, and late in 1888, ground was again broken for doubling the size of the works.

Meanwhile the inventive talent in the company has not been idle. They have taken out several patents for the application of the material to valves of all kinds, the asbestos renewable disk now being the prominent feature in brass and iron straightway, globe, and angle valves. With the increase in the varieties offered to the public, the calls for all kinds have multiplied. They are now making a line of gate valves with renewable asbestos seats, the usefulness of which must win for them wide popularity.

The application of asbestos to the uses here made of it is entirely new in this country, and has here been carried very much further than in England, where the original owners are preparing to introduce on an extensive scale the American features.

The goods of the company are all sold to Fairbanks & Co. of New York, Fairbanks, Brown & Co. of Boston, and to their branch houses, which each in its own field distribute them throughout the country. The pressure of orders has always crowded uncomfortably the capacity for production, and it is doubtful if the additional room afforded by the construction now in progress will afford relief longer than did the former enlargement of the works in 1886. No limit can be assigned to the future development of the business. If the strength of the adult corresponds to the robustness of the infant, this establishment will in due time find a place in the front rank of American manufactories.

The capital is \$100,000, the shares being held by a few people as an exceptionally choice investment. The company employ 150 hands, and pay about \$90,000 a year in wages. When the new buildings are completed and occupied, the pay-roll will be doubled. The officers from the date of organization have been, Rufus N. Pratt, president; Ernest Cady, secretary and treasurer.

THE AMERICAN PUBLISHING COMPANY.

The above company, incorporated April 8, 1865, by the coalescence and absorption of various houses, traces its lineage to the origin of the subscription business in 1822, and some of the stereotype plates,

made not long after, are still in its possession. From the beginning it has commanded an extensive trade, having disposed of immense editions of many well-known books, and having introduced to the public a number of noted authors.

The connections of the company, co-extensive with civilization, enable it to give the widest circulation to meritorious works, and notwithstanding the money and labor now required to market books, it is in better condition, and better prepared to prosecute the business, than at any previous period of its existence.

Capital, \$50,000. Officers, Frank E. Bliss, president and treasurer; Walter Bliss, secretary. 424 Asylum.

ESTATE OF S. N. HART.

In 1833, S. N. Hart, with a fellow-apprentice, formed the partnership of Balch & Hart, carriage makers, occupying a shop on Church street. Burned out in 1838, he built about 1840 both a house and factory on the corner of Asylum and Ford streets. From that time till the war he did an extensive southern business in carriages, besides supplying chaises to the Boston market, where his work and styles were highly popular. In 1865, he built a large factory on Ford street, which he sold the following year for \$25,000. In 1867, he bought the property Nos. 39-43 Albany avenue, which he occupied during the remainder of his life, and since his death in 1886 the business has been continued in the same place by his son, Edward G. Hart, for the benefit of the estate. The establishment has always enjoyed a high reputation for the excellence of its work.

THE SIGOURNEY TOOL COMPANY.

A joint stock corporation, organized under the general law of Connecticut, in 1880, as The Hartford Compressed Air Pump Company, secured, in April, 1884, on application to the Superior Court, an order changing the name to The Sigourney Tool Company. The original pump business was bought by other parties, and removed to New Jersey.

Before the sale, in anticipation of a change in the direction of its efforts, the company remodeled its works, putting in the finest machine tools procurable, and began to manufacture interchangeable special

machinery of a high quality of workmanship. Restricting its endeavors to the finest grades and most delicate adjustments, the company have gradually drawn to its doors a clientage that on various lines are aiming at similar excellence. Latterly the pressure of orders from a highly desirable class of customers has crowded the facilities of the establishment to their utmost capacity, so that a material enlargement will soon become imperative.

For the protection of itself and its patrons the company has erected at considerable expense a commodious fire-proof building, where special tools are stored at night, and when not in use, under the constant care of a competent man.

The company build the Smyth book sewing machines, having produced all tools for making the parts of the same interchangeable. It is also now engaged in filling a large order from type-writers for tools, in making models of special machines, automatic machines for several purposes, and a large number of its one, two, and three spindle drills.

It is the policy of the company to keep fully abreast of the times, and as new demands arise with the progress of invention, to be prepared always to respond with work of the very finest quality.

Capital, \$60,000. Factory and office, 9 Sigourney street, corner of Cushman. Number of hands, 51. Annual payments in wages, \$38,000.

G. Wells Root, president; Frederick D. Taylor, secretary and treasurer.

J. M. NEY & COMPANY.

J. M. Ney & Company refine and manufacture gold foil, leaf, plate, etc., and pure and alloyed gold and silver for electro-platers.

The house traces its lineage to William Johnson, who was in this business in Hartford as early as 1828. J. H. Ashmead succeeded Mr. Johnson in 1839, and was followed by Ashmead & Hurlburt in 1846. The new firm continued until 1864 when it dissolved and divided the business, one branch being conducted by E. Hurlburt & Company until 1866, when, on the death of Mr. Hurlburt, it became J. M. Ney & Company.

The annual out-put is large, and is distributed from Nova Scotia to the Pacific Ocean. This house furnished the gold for the dome

of our State Capitol. A surface of forty-four hundred square feet consumed about two pounds of the leaf, valued at eleven hundred dollars. After ten years of service the covering is still in excellent condition. Shop, 265 Asylum.

THE AMERICAN WRITING MACHINE COMPANY.

Organized in 1880, under the laws of the State of New York, this company located at first in the city of New York. Its initial operations were far from satisfactory. It could not obtain efficient help, while good hands introduced from other places were apt to deteriorate amid the evil influences around them. Inferior workmanship resulted in an unprofitable business.

In the fall of 1882, the works were removed to Corry, Penn., in consideration of a bonus from the city and a proffer of additional capital. While some improvement followed, the cost of production being reduced and the quality of the machine advanced, the locality developed counterbalancing disadvantages. All skilled help had to be brought from a distance, and many were discontented away from their old associates. In the absence of other factories making fine, light machinery, improvements in tools and construction could only originate on the premises of the company. Materials came from a distance and often proved unsuitable. The stimulus to growth springing from contact of mind with mind was largely wanting. The drawbacks of the situation, often and anxiously discussed, convinced the principal owners of the necessity of another change. At this juncture, George A. Fairfield, the organizer and head of one of the most prosperous manufactories in New England, urged the advantages of Hartford with so much force that the company, although burdened with a lease and rent running eighteen months longer, after careful consideration, moved to this city in the spring of 1885. It required nerve to face the cost of transferring several hundred miles the machinery and fixtures of an extensive plant, and to assist over forty hands specially skilled in the work to migrate to new homes with their families and belongings.

However, the stockholders have had no occasion to regret that they followed the excellent advice of Mr. Fairfield. Locating at 476 Capitol avenue, in a nest of cognate industries, with an ample fund

of ingenuity and manual skill to draw from, and brought into relations of close fellowship with scientific mechanics, the enterprise passed through a transformation which has made it a fitting companion in prosperity of the Hartford Machine Screw Company in the contiguous and connecting buildings. Great improvements in the machine by devices which reduced the cost of construction, speedily changed the complexion of the business. Since the removal to Hartford a debt of \$40,000, incurred by a previous administration, has been paid; all obligations for royalties have been extinguished; the entire cost of patents has been written off from the books; the factory has been wholly refitted with new tools both special and general, the equipment brought from Pennsylvania having become obsolete through the introduction of more efficient contrivances; and in addition to these extraordinary expenditures the property has been placed upon a solid dividend-paying basis. A rigid but intelligent economy has been an important factor in producing the result.

The managers fully recognize the aid they have derived from the abundance here of specially skilled labor, and from the proximity of able industrial leaders.

While local advantages have contributed largely to this rapid and remarkable change in conditions, the excellence of the machine now offered to the public by the company has accomplished the rest. In model the No. 2 Caligraph has always possessed decided advantages over that of any other double-case type-writer. It has a key for every character, and no shift is needed to get upper-case characters or punctuation marks, thus reducing the number of movements required to write a given amount of matter to the fewest possible. The type-bar journals are adjustable to wear, so that good alignment can be maintained for years, and since the removal of the works to Hartford the quality of material and workmanship has been so much advanced that the Caligraph is to-day probably the best made writing-machine in the market.

The rapid enlargement of the demand has come more from the spontaneous recommendation of users than from advertising, for of this the company has done comparatively little. To-day it can be found in operation in every trade center of the world. Not only is it the favorite in this country with the Western Union Telegraph

Co., The Associated Press, and many of the largest commercial concerns, but the British Home and Colonial governments, and the French and Russian governments, are prominent buyers of caligraphs. It is fitted according to destination with the writing characters of the principal modern languages, including Greek, Russian, and Armenian.

The company employs 175 hands, paying yearly over \$90,000 in wages. Its capital is \$150,000. John C. Howe, president; C. F. Taylor, vice-president; George E. Morehouse, treasurer; and J. M. Fairfield, secretary.

THE BEACH MANUFACTURING COMPANY.

March 24, 1888, The Beach Manufacturing Company began, with four hands, to produce fleece-lined cloth, under the patents of Samuel Jaros. By the first of July, the number of employés had increased to twenty-five, and in November, to sixty-five. Before the close of 1889 they expect to have fully two hundred at work, as the only impediment to a seemingly indefinite extension of the business, thus far visible, is the time required for making the looms.

At the present time the company manufacture cloth for under-wear, shoe linings for rubber goods, arctic socks, stockings, and shoes, all fleece-lined; also knit fabrics for ladies, and Jersey cloths with and without backing. Basic patents cover the machine, process, and products. By ingenious devices Mr. Jaros has reached practical results which knitters had previously agreed in pronouncing unattainable. The machines are patented as "automatic running knitting looms." The process and patents are applicable to a wide range of manufacture, and as the company overtakes the demands upon its facilities, new lines will from time to time be placed upon the market.

In the Jaros underwear and foot-wear strictly scientific principles are applied to the production of clothing. The fleece lining of wool by capillary action transmits the moisture of the body to the cotton backing of the cloth, leaving the surface dry and warm. An experiment easily tried demonstrates the rapidity of the process. If a piece of the fabric, saturated in water and wrung is placed between the open palms of the hands, in two or three minutes the fleece side will be dry and warm, while the reverse side will be wet and cold. The goods always present a dry surface to the skin, permit free

evaporation from the person, guarding against sudden chilling of the body, and besides being a protection to the delicate are a comfort to the strong. Athletes, base-ball players, and others whose amusements or pursuits involve violent exercise, are counted among the most enthusiastic users of the Jaros wear.

Factory and office at 95 Commerce street. Capital, \$50,000.

It is difficult to give satisfactory statistics of a concern that is growing so rapidly. The year 1889 opens with a pay-roll exceeding \$20,000 per annum.

George Watson Beach, president; Geo. H. Day, vice-president; C. J. Burnell, treasurer; Samuel Jaros, manager; and John A. Butler, Jr., secretary.

THE BURR INDEX COMPANY.

The Burr Index Co. was organized in April, 1883, succeeding The J. B. Burr Publishing Co. They manufacture Burr's Patent Combination Indexes, and blank books of all kinds. The indexes are largely used by the executive departments at Washington and at Ottawa, the Canadian capital, by many large railway companies and firms throughout the country, and in Great Britain. The advantages of the index are its simplicity and the rapidity with which names can be entered and found. The method of arrangement is such that one turn of the hand will give the location of any name desired. It is generally conceded to be the best system of improved indexing to be found, being specially adapted to the use of banks, insurance and railway companies, assessors, State, county, town, and city clerks, and all firms having many names to enter.

Capital, \$50,000. W. L. Matson, president; S. Talcott, vice-president; R. K. Erving, secretary and treasurer.

THE WASHBURN CAR-WHEEL COMPANY.

The business of this company was brought from Worcester, Mass., in 1873, when it was organized with its present name under a Connecticut charter.

They manufacture steel-tired wheels for passenger coaches, locomotives and tenders, parlor and sleeping cars. The tire, made from crucible steel, hammered and rolled, is welded to a cast-iron center. These wheels have been in use for nineteen years, and have an un-

equaled record for mileage. For fast service they have been adopted by the leading railways of this and other countries, and have given a high degree of satisfaction, a goodly percentage of them showing a life of over half a million of miles.

A part of the work is still done in Worcester. The Hartford branch employs 30 men, and pays \$18,000 yearly in wages.

Capital, \$300,000. Works on Suffield street. Officers, Wm. H. Barnum, vice-president; Salisbury Hyde, secretary and treasurer.

PARKS & SAVAGE.

Late in the eighteenth century one Quiner introduced in Hartford the manufacture of crackers, on the Albany road at the location now numbered 185 Albany avenue. The forms were cut by hand. About the year 1800, J. S. French succeeded Mr. Quiner, and carried on the business at the same stand for over fifty years, improving the processes step by step till, in 1852, horse power was substituted for human muscle in preparing the dough. In 1850, Irad Edwards, after an apprenticeship of seven years, was admitted as a partner, and two years later, on the retirement of Mr. French, the firm of J. S. French & Co. was succeeded by Edwards & Kelley, which continued till 1861, when Mr. Edwards became sole proprietor, and removed from 185 to 57 Albany avenue. He introduced a number of notable improvements, including steam power for rolling and preparing the dough, and a reel oven with a capacity for baking ten barrels of flour in ten hours — the first of the kind in Hartford and the second in New England. The firm of Irad Edwards & Son, formed in 1868, continued till 1874, when the business was bought by S. H. Backus, who, in 1876, sold it to Wm. T. Parks.

The present firm of Parks & Savage dates from January 1, 1877. Early in the same year street number 59 was added to their premises, and a new oven was built with a capacity for thirty barrels of flour in ten hours. So rapidly did the business grow that they soon found it needful to take No. 61 for storage. At the expiration of a ten years' lease, May 1, 1887, Parks & Savage bought the entire property, and in the following autumn built the additions in the rear. In extent and variety of production the firm hold a leading position in New England, turning out a class of goods, especially lunch bis-

cuit and pilot bread, that rank with the choicest in the market. They employ about 25 men and boys, and pay \$15,000 yearly in wages. Proprietors, Wm. T. Parks and Willis M. Savage.

N. PALMER & CO.

This house, one of the largest of its kind in New England, established in 1859 by Messrs. Nelson Palmer, George Aspenwall, and J. W. Fuller, manufacture oak-tanned leather belting. In 1869, Mr. Palmer died, and the business was conducted by the remaining partners until 1875, when Mr. Fuller retired. In 1878, Fayette C. Clark, who had been in the employ of the firm for nine years, was admitted to the partnership, and on the death of Mr. Aspenwall, in 1880, bought his interest and became sole proprietor, retaining the firm name of N. Palmer & Co.

The workshop, storage-room, office, etc., occupy two floors of the spacious building at 338 Asylum street, and from small beginnings the business has grown to large proportions, extending over New England and to remote parts of the United States.

Besides the manufacture of belting and the sale of manufacturers' supplies, the house furnishes the entire country with a "patent lubricating axle washer," of great merit. It is the invention of Mr. Clark, for which he holds letters patent, and is made from leather, which undergoes treatment by a chemical solution that renders it impermeable to moisture and non-sensitive to the influence of heat or dryness of atmosphere, while it acts as a lubricant to the axle. It also deadens sound, and retaining its virtues through all seasons, is efficient until worn out.

The house likewise makes a specialty of polishing and buffing leather of the various kinds for polishing steel and soft metals. It is the sole agent in Connecticut and western Massachusetts for the Callahan jacket-fire-hose, made of a knitted fabric and lined with rubber, an article in extensive use and very popular with fire departments, manufacturers, and others.

ALLYN & BLANCHARD COMPANY.

The foundations of a business, which has grown to large proportions, were laid by O. H. Blanchard, in 1865, in narrow premises on the corner of State and Front streets. In 1878, N. B. Allyn became

a partner under the firm name of Allyn & Blanchard, and thence, with added means and energy, the house advanced rapidly to a leading position in New England. To meet the increasing demands of trade, they moved into commodious quarters at Nos. 32-40 Market street, with a mill in the rear. In 1885, Charles G. Lincoln and Robert N. Seyms were admitted to the partnership, and the title was changed to Allyn & Blanchard Company.

The company manufacture ground coffee and spices, employing in this department about 30 hands, and paying yearly over \$25,000 in wages, with annual sales exceeding half a million. The mill is thoroughly equipped for this special work. Aside from the preparation of goods for the market, the company are extensive importers and dealers in tea, coffee, spices, cigars, tobacco, and grocers' specialties. Upon the best grades they place the firm trade-mark of the Turk's Head, which consumers have learned from uniform experience to recognize as a guaranty of purity and excellence.

WM. H. WILEY & SON.

In 1876, William H. Wiley began the manufacture of over-gaiters, with a capital of twelve dollars, making long days himself, and employing a single girl. Pursuing the established Hartford policy of doing only the most thorough and serviceable work, he soon established a reputation which brought a rapid and continuous increase of orders, till the firm now employ about fifty hands, of whom two-thirds are girls, pay \$12,000 a year in wages, and distribute an annual product valued at \$55,000. In 1886, his son, J. Allen Wiley, was admitted as a partner. As a result of good work and good management, the firm, besides paying for its entire equipment, have accumulated a comfortable working capital. As the business developed, they added to the original line leggings, lamb's wool and bound cork insoles, and sundry specialties. Mr. Wiley has patented several inventions which add materially to the superiority of his goods. For a number of years the firm have had a series of important contracts for the supply of both the army and navy departments. The Hartford Fire Insurance Company is now building a commodious factory for their use, the old quarters having become too narrow for their growing trade.

THE CAPEWELL HORSE NAIL COMPANY.

This company was organized in 1881, with a capital of \$200,000, for the purpose of manufacturing horse shoe nails upon machines, invented and patented by the well-known inventor, George J. Capewell, who had spent several years in constructing and perfecting his invention, which is, indeed, a marvel of mechanical ingenuity.

This machine is thoroughly automatic in its working, and one of them will produce more nails in a specified time than could be made by one hundred blacksmiths by hand.

By the process of manufacture, which is new and peculiar to this machine, the metal is greatly improved in quality, and the nails so made are far superior to those produced by any other known system.

Not only throughout the United States, but also in Europe, the "Capewell" horse nail is recognized as the "best" both in quality and "finish." Factory, 133 Sheldon street. E. C. Lewis, president; George J. Capewell, vice-president and superintendent; A. W. C. Williams, treasurer; C. A. Mason, secretary.

THE THORNE TYPE-SETTING AND DISTRIBUTING MACHINE.

For more than forty years inventors in Europe and America have striven to produce a machine capable of rescuing the art of type-setting from the field of manual labor. It is the only large industry in which the work is performed to-day as it was nearly four centuries ago when the first printed books were given to the world. This mechanical problem, long recognized as one of the most difficult which has ever tortured the resources of human ingenuity, has at last found its successful solution in Hartford.

The inventor, abandoning the beaten paths in which millions of dollars had been lost, found in the utilization of the rotary principle the key which unlocked the door of the treasure-house. If the original idea flashed upon him as an inspiration, he was still compelled at heavy cost of thought and money to toil on through many years before the conception finally became embodied in its present practical form.

Over thirty machines are in use, and the company is now turning them out at the rate of one a week, with orders for several

months in advance. In the evolution of the industry the demand will enlarge indefinitely, involving the indirect transfer of a large volume of labor from the case of the printer to the shop of the manufacturer. While industrial revolutions bring individual hardships, the production of the type-setter promises to add materially to the force of skilled mechanics employed in the city.

The *Evening Post* of Hartford, and leading monthlies like the *Forum* and *Current Literature*, have for months depended on the Thorne machine, and more than a hundred first-class books like Logan's "American Conflict" have been produced in the same way, thereby saving one-half in the cost of composition. Several have gone to England and Ireland, and others for the British Isles are ordered. A detailed and technical description of the type-setter, with the opinions of printers who have tested its capabilities, can be obtained by addressing the Thorne Machine Company, Hartford.

The factory is located in one of the wings of Colt's Armory. R. W. Nelson is president and treasurer.



THORNE TYPE-SETTING AND DISTRIBUTING MACHINE.

THE SMYTH MANUFACTURING COMPANY.

This company was organized in December, 1879, for the purpose of perfecting a machine to sew books with thread,—a thing which had always theretofore been done by hand.

The company has been eminently successful, and is now producing a marvelously perfect machine, which sews books with such uniformity, flexibility, and strength that the best hand-sewed work is inferior by comparison.

The work is done with great rapidity and absolute certainty, and in accomplished results reduces very largely the cost of book-making.

The company has taken out patents and established agencies in all parts of the world where to any extent books are made.

The company proposes to furnish the book-binding trade with machines adapted to all classes of work, either edition, blank, or pamphlet.

Capital, \$300,000.

C. C. Kimball, president; J. S. Tryon, secretary and treasurer.

I. J. STEANE & COMPANY.

This firm manufactures silver-plated hollow-ware. It was established in 1879, in New York City, where it did a successful business. In 1887, attracted by the centrality of the town to the electro-plating industry, it moved to Hartford, bringing a corps of skilled workmen. The firm and its connections bought the large building in the rear of Market street known as Kohn's Hall, where the facilities for the extension of the business are great. The company employs 100 hands, disburses over \$40,000 a year in wages, and is pleased with the location.

CHARLES H. DRESSER.

In 1881, in a room twelve by fifteen feet, Charles H. Dresser, in company with Joseph C. Wybell, began business, having no capital in money, but rich in hopefulness and in the determination to execute with fidelity whatever he should undertake. In 1887, the firm had met with sufficient success to buy a lot and build a factory of two stories, 130 by 50 feet, and to equip it with the most approved tools

and machinery. Early in 1889, Mr. Dresser bought the interest of his partner, and is now sole proprietor. At the present time, on a conservative inventory, the net value of the plant exceeds \$15,000, a fact which we have obtained reluctant permission to state, because it is fairly typical of quite a large class of parallel cases in Hartford, all of which go to show that industry, directed by intelligence, can find here, among the advantages of a high civilization, abundant and certain avenues to success.

In addition to general work, Mr. Dresser manufactures store, office, and bank fixtures, many beautiful specimens of which are to be found here and in other cities. He employs 20 men, and pays \$13,000 yearly in wages. Factory, 225-235 Sheldon.

I. B. DAVIS & SON manufacture Berryman heaters and pumps, 40 Cushman.

THE DWIGHT SLATE MACHINE COMPANY manufacture machinery and tools, 262 Main.

HILLS' ARCHIMEDEAN LAWN MOWER COMPANY, rear 66 Market.

HITCHCOCK & CURTISS KNITTING COMPANY manufacture mittens, gloves, and seamless half-hose, 1189 Broad.

THE KELLOGG & BULKELEY COMPANY, lithographers and wood engravers, 175 Pearl.

P. AMERMAN & SON, manufacturers of iron and steel marine, stationary, and portable steam boilers, 109 Commerce.

ATLANTIC SCREW WORKS, David Tilton, proprietor, 70 Huyshope.

A. D. WORTHINGTON, book publisher, 438 Asylum.

PARK PUBLISHING COMPANY, 284 Asylum.

S. S. SCRANTON & Co., book publishers, 281 Asylum.

HUNT & HOLBROOK, manufacturers of boots, 44 Union Place.

THE CONNECTICUT MOTOR COMPANY, manufacturers of automatic electric motors, 42 Union Place.

WM. H. LOCKWOOD, electrotyper. Special attention given to wood cuts and job work. 41 Trumbull.

JAMES H. ASHMEAD & SON, gold beaters, 41 Trumbull.

CHARLES P. HATCH & Co. manufacture the "non-slip, everlasting belt." 302 Asylum.

THE BONSILATE BOX COMPANY make insulating materials, 24 Mechanic.

FRED. C. ROCKWELL, manufacturer of packing boxes, 20 Potter.

THE MANSUY CARRIAGE MANUFACTURING COMPANY make, by hand, carriages of all standard styles, to order, at Nos. 17-21 Elm.

THE NATIONAL MACHINE COMPANY, H. C. Baker and R. Crittenden, practical workmen and mechanical engineers, 133 Sheldon, make special machinery and tools.

E. H. JUDD, engineer and machinist, builder of Hamilton's independent air pump and condenser for steam engines. Engine repairing a specialty. 22 and 24 Mechanic.

WM. L. & H. E. PITKIN, manufacturers of sterling silver spoons, forks, etc., 174 Pearl.

WM. L. WHITTEMORE & SON, brush makers, 97 Asylum.

WILLIAMS & CARLETON, manufacturers of druggists' and grocers' shelf goods, 206-8 State.

HARTFORD WIRE WORKS, floral designs, flower stands, window and door guards, window screens, office railings, etc., 347 Asylum.

C. F. BAKER, gold, silver, and nickel plating. Orders left at 342 Main.

CHILTON MANUFACTURING COMPANY, white lead, colors, and mixed paints, 24 Potter.

PARK KNITTING WORKS, woolen mittens, gloves, and seamless socks, 438 Asylum.

PATRICK LARAGY, manufacturer of light and heavy castings, and machine work, 114 Grove.

PHOENIX WOOD WORKING COMPANY, manufacturers of wood mantels, stairs, store fixtures, etc. Wood sawing and turning. Rear 17 Albany avenue.

THE TAFT COMPANY, natural and artificial wood ornaments. Rear 17 Albany avenue.

THE HARTFORD HEEL PLATE COMPANY manufacture heel plates, and machines for inserting them in rubber shoes. 5 Grove.

THE CONSOLIDATED CHEMICAL ENGINE COMPANY make chemical engines and fire extinguishers. 7 Grove.

W. H. PICKERING & Co., makers of special machinery and tools. Repairing of steam engines a specialty. 110 Commerce.

HARTFORD SILVER PLATE COMPANY, silver-plated ware. Factory and office, 28 High.

HARTFORD CHEMICAL COMPANY manufacture lavine, 30 Union pl.

A. MUGFORD, engraver on wood, 63 Asylum.

ARMS POCKET BOOK COMPANY, manufacturers of pocket books, bill-books, card and letter cases, memorandums, etc., 336 Asylum.

STAR PRINTING COMPANY, general mercantile printing and wood engraving, 336 Asylum.

THE CALHOUN PRINTING COMPANY make a specialty of wood engraving and color printing, 66 State.

WILEY, WATERMAN & EATON, book and job printers, 354-56 Asylum.

A. W. LANG, commercial and society printing, 66 State.

THE FOWLER & MILLER COMPANY, printers. Illustrated catalogues and job printing, 341 Main.

CLARK & SMITH, book and job printers, 362 Main. Established 1865.

WILLIAM H. TALCOTT & BROTHER, practical book-binders and first-class blank book manufacturers, 338 Main.

D. B. MOSELEY'S SONS, newspaper and job printing, 336 Asylum.

J. B. BURR & COMPANY, manufacturers of advertising books and tablets, and of blank forms, 336 Asylum.

A. W. SCOVILLE, architect, builder, wood carver, etc., 286-90 Sheldon.

STRICKLAND & SHEA, scroll sawing, turning, carving, ornamental wood work, mouldings. Church work and mantels a specialty, 133 Sheldon.

ALFRED T. RICKER, Hartford Moulding Works, manufacturer of mouldings of every description for builders and picture-frame dealers. 133 Sheldon.

H. N. JONES & COMPANY, makers of sash, doors, and blinds. Planing, scroll sawing, etc., 150, 162 Main.

DWIGHT CUSHMAN, manufacturer of water wheels, 223 State.

W. H. DODD & COMPANY, lithographers, manufacturers of labels and show cards, commercial and color work, 42 Union Place.

L. T. FRISBIE & SON, manufacturers of soap and candles, 77-9 Talcott.

HAMLIN PUMP COMPANY, manufacturers of patent elastic rubber bucket pumps, and packing cases, 21 Union.

HARTFORD CEMENT TILE COMPANY, 69 Commerce.

THE PEERLESS WIRE MATTRESS, 287 Sheldon.

F. SCHROEDER, manufacturer of choice confectionery. Store, 373 Main; factory on Morgan.

E. J. HOADLEY, manufacturer of specialties in confectionery for the jobbing trade exclusively, Pond Place.

E. H. WILLIAMS, manufacturer of fine confectionery, including specialties, 236 Asylum.

JOHN CURLEY, manufacturer of confectionery, 575 Main.

PAUL W. KRAJEWSKI, manufacturer of confectionery, 32 Temple.

CHARLES SOBY, manufacturer of choice copyrighted brands of cigars. Employs 70 hands. 349 Main.

KRUG, POWERS & COMPANY, manufacturers of fine cigars, 267 Main.

E. LESCHKE & COMPANY, cigar manufacturers, 469 Main.

ÆTNA PYROTECHNIC COMPANY, manufacturers of patent colored fire torches, colored fire, etc., for night parades.

SMITH MEDICATED PRUNE COMPANY, 438 Asylum.

T. J. BLAKE & SON, 38 and 40 Ferry, manufacturers of all kinds of copper work, brass castings, Babbitt metal, etc.

ÆTNA BRASS FOUNDRY, 114 Grove.

THE PHÆNIX BRASS FOUNDRY COMPANY, 33 Wells.

C. BIRKEY, jobber in brass work, 33 Wells.

C. J. CALLAGHAN, manufacturer of paper boxes, paper cap tubes, and paper rolls for mailing purposes, 44 Union Place.

C. F. NICHOLS, manufacturer of paper boxes. 'Druggists', jewelers', and silverware boxes a specialty, 78 Market.

ALFRED TEWELES, manufacturer of fancy boxes and cases, 78 Market.

F. H. HASTINGS, maker of cigar boxes, rear 341 Main.

F. C. STURTEVANT, mills at 162-66 Commerce, manufacturer of granulated oyster shells and poultry supplies, "Imperial egg food." Grinds annually 750 tons of oyster shells.

E. M. ROBERTS & SON, established 1825, manufacturers of solid silver and plated ware, 76 Market. Mr. Roberts is said to be the oldest maker of solid silver ware in New England.

H. B. BEACH & SON, 135 Grove, makers of marine and stationery boilers, also of plate and sheet iron work. (See page 139.)

J. R. TOPPING, pattern and model maker. Good and correct work guaranteed. 262 Main.

WOODWARD & ROGERS, manufacturers of drills, tapping machines, surface grinders, special machinery, etc., 262 Main.

HOGAN MANUFACTURING COMPANY, water closets, 262 Main.

JONES & LITTLE, pattern and model makers, wood turning, scroll sawing, and shop jobbing done, 33 Wells.

EDRED W. CLARK, manufacturer of rubber molds, presses, and rubber tubing machinery, 31 Wells.

HARTFORD GLASS WATER CLOSET COMPANY, 147 Commerce.

EAGLE EYELET WORKS, 24 Mechanic.

R. B. HUGUNIN, patent screw sash balance, 97 Asylum.

T. M. PARKER, maker of seals, stamps, etc., 63 Asylum.

Other Features of Hartford.

STREETS—SEWERAGE—FIRE DEPARTMENT—GAS— ELECTRICITY—STREET RAILWAYS—POLICE— HALLS—HOTELS.

IN many features all old cities in the United States differ little from one another. The principal streets of Hartford are for the most part broad, well paved, and lighted by electricity. Its main business and residence parts are from fifty to one hundred feet above the Connecticut and the Park Rivers, which latter bisects the town, affording excellent facilities for sewerage. It has a paid fire department, with seven steam fire engines, a patent extension ladder, about 16,000 feet of serviceable hose, and other needful equipments. Gas is furnished at \$1.40 per thousand feet. Two electric light companies provide both the arc and incandescent systems. There are about twelve and one-half miles of street railway, and including double tracks, sixteen miles, with material extensions in immediate prospect. The police has long been noted for its efficiency, and as under the appeals of the good preacher "fools who came to scoff, remained to pray," so here, many thieves who came to prey have remained to plead. The recent completion of an armory by the Governor's Foot Guard adds a central, safe, and commodious place for entertainments to the Academy of Music and Roberts' Opera House. Smaller halls for the use of societies and other purposes exist in abundance. If hotels are not so numerous as were the "taverns" of 1818, the improvement in quality more than compensates for diminution in quantity.

POPULATION AND WEALTH.

In 1756, Hartford ranked as the third town in population within the present limits of the county, Windsor standing first and Farmington second. Since then the boundaries of each have been materially curtailed by the creation of new townships. The decennial census of 1790 was the first to place Hartford, with a population of 4,090, at the front. During the next thirty years growth was slow, the number of inhabitants reaching but 6,901 in 1820, a gain of less than seventy per cent. while a generation were crossing the stage. The population increased to 9,789 in 1830; 12,793 in 1840; 17,966 in 1850; 29,152 in 1860; 37,743 in 1870; and to 42,551 in 1880. Computations based upon the names in the last issue of Geer's Directory give a population of 57,483* for July, 1888.

Valuations of lands and houses, made in pursuance of the laws of the United States in 1799, gave to Hartford an aggregate of \$751,532.91, and in 1816 of \$3,168,872.32, a gain of \$2,417,339.41, or three hundred and twenty per cent. in seventeen years. During the same period the increase in population was less than twenty-two per cent. In the comparison are strikingly exhibited the natural advantages of the location. It was not a season of general prosperity—the outrages heaped upon our merchant marine by both England and France during the Napoleonic wars, the Embargo Bill of 1807, the Non-Intercourse Act of 1809, and the war of 1812, having borne with peculiar severity upon the commerce and industries of New England. Emigration to the west in many places nearly or quite balanced the gain from births. Yet Hartford, planted in the heart of a fertile region, rapidly accumulated wealth in spite of general misfortunes.

The assessed value of her property for local and State taxation was \$8,543,866 in 1840; \$11,186,333 in 1850; \$24,813,190 in 1860;

* The census for 1880 gave Hartford a population of 42,551, and there were that year 16,658 names in the city directory. In 1888, the number of names had increased to 22,504. A sum in simple proportion should give the number of inhabitants in 1888:

$$16,658 : 22,504 :: 42,551 : 57,483.$$

It is possible that from the greater thoroughness with which the city is now canvassed for the directory, the ratio is somewhat changed by the inclusion of a larger percentage of persons who are not heads of families.

\$44,509,427 in 1870; \$47,041,848 in 1880; and \$48,345,331 in 1887. In a town like Hartford, the "grand list" gives an entirely inadequate view of the wealth of the people, because many millions are invested in manufactures planted on outlying streams, and in distant farms, houses, blocks, railways, and ventures innumerable, that pay taxes where the properties are located. There is always an abundance of capital here seeking profitable use, and it can be had by convincing the owners that the proposed employment of it is safe, and promises reasonable returns.

TAXES.

Among the inducements offered to attract manufacturers, many communities, especially at the West, abate the taxes of new comers for a series of years. The scheme ignores the principle of equality and fairness, which should underlie every system for the distribution of public burdens; discriminates against established concerns, particularly in rival lines; and fails to harmonize with the ideas of old and conservative towns.

Pursuing a policy more enlightened and more just, and fully recognizing the benefits, both direct and indirect, that accrue to a city from the inflow of skilled labor, Hartford, by common consent and with common approval, assesses manufacturing properties with extreme liberality. In August and September, 1888, the secretary of the Board called upon the managers of the different establishments for the collection of statistics, and so far as he can remember heard but a single complaint against the rate, and this was founded on an actual grievance, which was promptly corrected by the authorities on presentation of the facts.

SOLIDITY OF OUR MANUFACTURES.

Taking as a basis of comparison a list of the shops in the city, great and small, compiled in 1882, it appears after exhaustive investigation that the number has since increased over forty per cent., while the operations of several of the more prominent have been enlarged in a much greater ratio. Out of one hundred names there catalogued, eighty-four are still in business here. Of the remaining sixteen, four have removed elsewhere, one has merged in a stronger local enter-

prise, two have died, five represented interests too obscure to be traced, two have failed, and three have partially withdrawn from active operations through ill success, but without loss to creditors. Confining attention to the list of 1882, without reference to the concerns which have come and gone during the interval, six years register two bankruptcies and three partial disasters only. Few cities in any line of effort can parallel this record of endurance and solidity.

NUMBER* AND CHARACTER OF EMPLOYES.

The manufacturing establishments of Hartford employ approximately 4,979 men and 1,329 girls, disburse \$3,156,600 annually in wages, and turn out an annual product of twelve millions, the cost of materials in some bearing a high ratio to the cost of labor. Assuming that every man thus engaged supports on an average three and two-tenths persons, and that the females simply take care of themselves, the shops of the city maintain directly 17,261 people. As the percentage of highly skilled workmen is unusually large, embracing inventors and mechanical engineers who are continually improving existing methods as well as enlarging the command of man over the forces of nature, the value of this component of our population can hardly be overestimated.

The above does not include newspaper offices, builders, masons, plumbers, painters, tailors, shoemakers, scattered workmen occupied mainly with repairs, or persons connected with the manufacturing departments of mercantile houses.

* Since the Board of Trade began systematically to collect statistics in August, 1888, five concerns alone, at the close of March, 1889, report a gain of over 300 in the number of employés—another evidence of the rapid growth of the city at the present time. The pressure for tenements—a fact of similar import—suggests a safe and profitable use for a large amount of capital under the eye of the investor.

TRADE.

In the earlier days of the commonwealth, Hartford carried on an extensive trade with the West Indies. Inland she controlled a considerable share of the traffic of the Connecticut Valley to the sources of the river. While the advent of railways and the increase of commercial centers have curtailed her field of operations, the growth of wealth and population nearer home has many times made good the loss. Of late years the tendency in jobbing lines has been toward concentration in a few strong houses which sell upon narrow margins of profit, depending for success upon skill in buying and economy of management. This ranks as one of the best markets in the United States for purchasers.



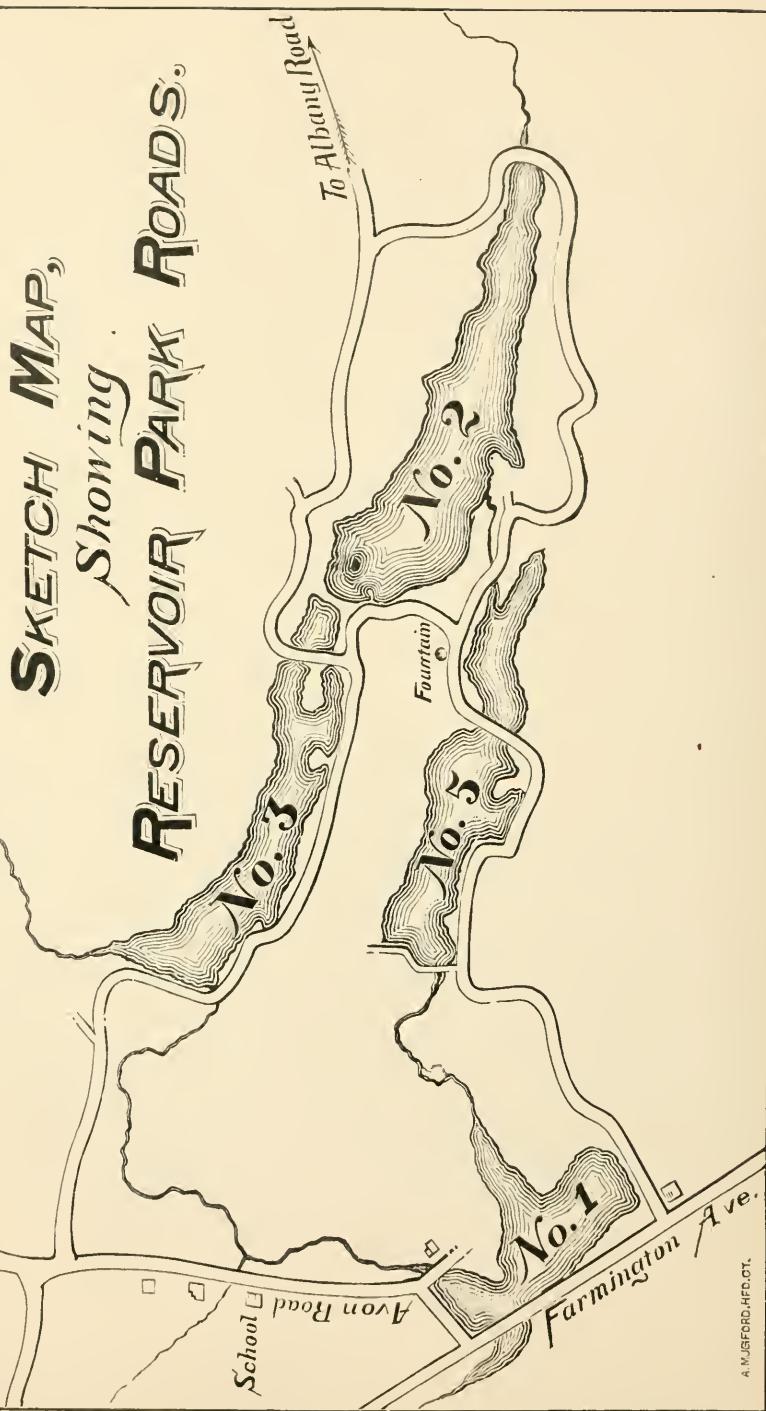
H. C. JUDD & ROOT'S BUILDING.

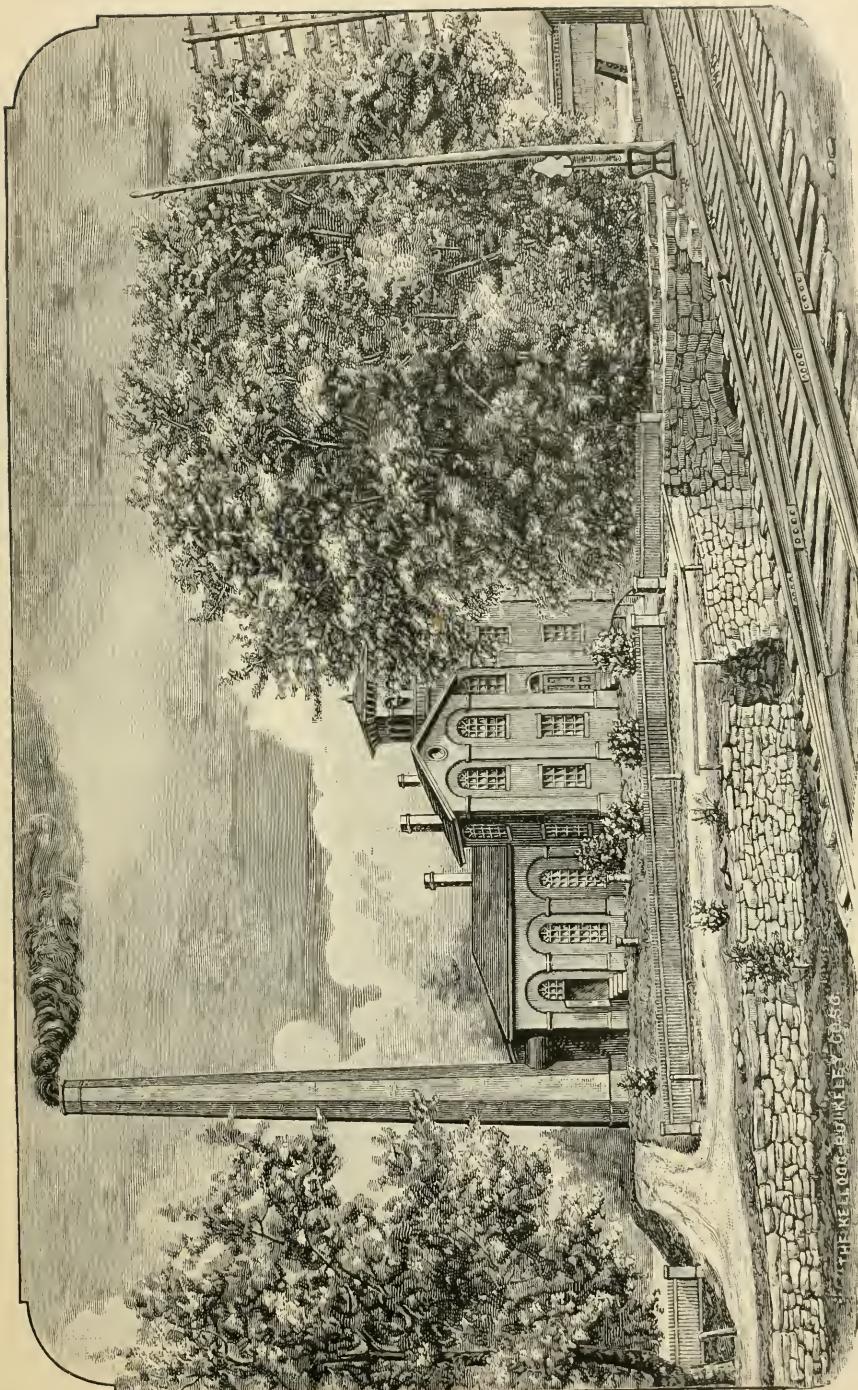
WATER-SUPPLY.

Hartford is exceptionally fortunate in its water-system and water-supply. The main source upon which it relies is a chain of reservoirs, beginning six miles west of the city, which drain about twelve square miles of wild mountain-land, and thus secure water of remarkable purity. The inflow is either from actual springs or clear trout brooks.

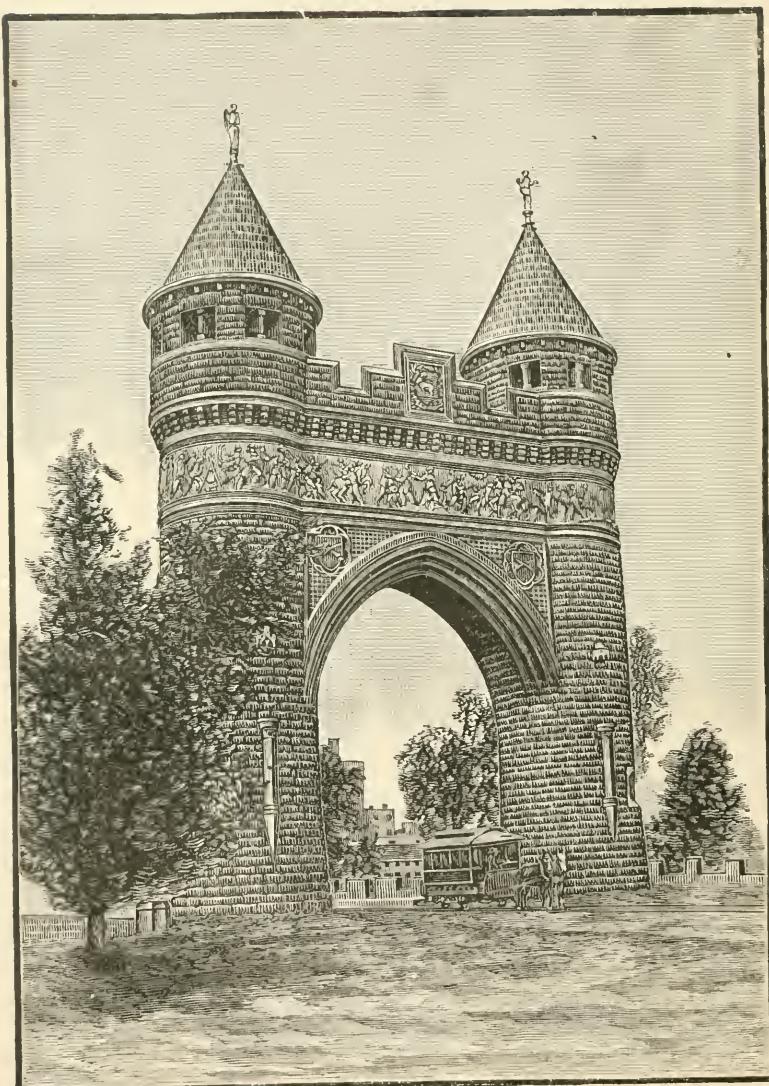
Five reservoirs have been built for storage, holding altogether 1,300,000,000 gallons. The distributing reservoir—lowest, of course, in the group—is 265 feet above the level of the Connecticut river. Two cast iron mains of 20 inches diameter bring the water to the city, and there are 80 miles of supply pipes in the streets, making it available for every house. Its pure quality renders it especially adapted to steam purposes, as it is free from the matter injurious to boilers so often found in ordinary water supplies.

To meet the remote possibility of failure of the storage system, the city has ample pumping machinery ready for use at an hour's notice, which will drive 3,000,000 gallons a day into a distributing reservoir on Garden street, 125 feet above the river level. No failure is anticipated, and no accident to cause a stoppage is considered possible under the present systematic method of arrangement; but in case of such remote emergency, the city would hardly be aware of the change, and could in no event suffer from serious lack of water. The whole system is under efficient management. A resident engineer is in charge of the chain of reservoirs, with telephone communication with the main office of the Board of Water Commissioners in the city. The region occupied by the reservoirs is a wild, uninhabited country (thus avoiding the danger of pollution), and the water commissioners, to facilitate the necessary work of maintenance and repair, have built a drive-way seven and one-fourth miles in length about the reservoirs, which practically makes a park of the wilderness.





PUMPING STATION AT CONNECTICUT RIVER.



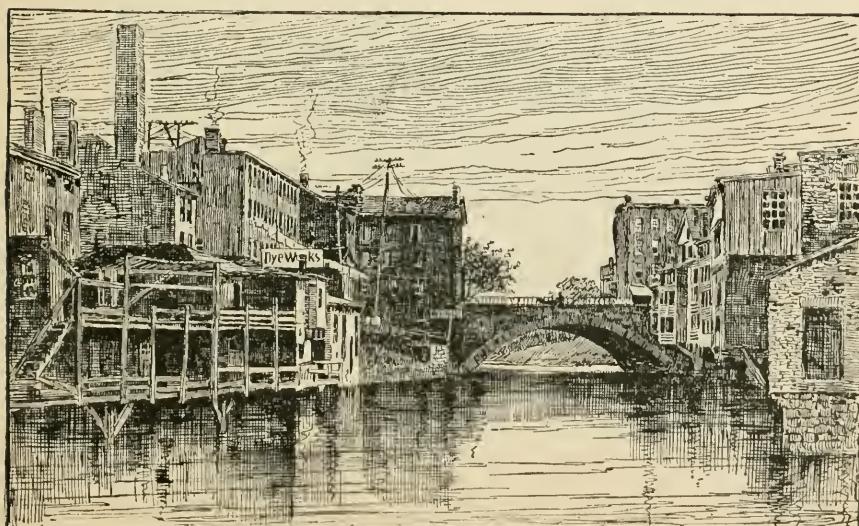
MEMORIAL ARCH (TRINITY STREET).

PARKS.

Bushnell Park,* not far from the center of the city, was laid out in 1853, and accepted by a popular vote in 1854, largely through the influence and efforts of Horace Bushnell, D. D. With the additions purchased from Trinity College for the site and surroundings of the new Capitol, it contains nearly fifty acres. A surface, sloping from the high and romantic bluff on the west to the meadows that skirt the stream which bears its name, offers to the eye varied and attractive views. The grounds, shaded by one hundred and fifty distinct varieties of trees, are artistically laid out and carefully tended. Here are to be seen bronze statues of General Israel Putnam and Dr. Horace Wells, the discoverer of anæsthesia; also the Soldiers and Sailors Memorial Arch, one of the most beautiful and impressive monuments thus far erected to keep in remembrance the services of the heroes who died on land and sea to preserve the Union. It was designed by George Kellar, an architect of Hartford.

Scattered about the city are half a dozen other small parks. The grounds of the Retreat for the Insane, containing twenty-five acres of lawn and shade, are open to visitors in the afternoon, except on Sundays, while the fields belonging to the Asylum for the Deaf and Dumb have an unoccupied area of about twelve acres in the heart of the residence part of the town.

* For view, see page 78.



EAST VIEW OF THE STONE BRIDGE (MAIN STREET).



FIRST STATE HOUSE.



SECOND STATE HOUSE (NOW CITY HALL).



PRESENT STATE CAPITOL.

PUBLIC BUILDINGS.

The first State house in Hartford, a wooden structure 70 by 30 feet, was built in 1719-20, in front of the present City Hall. On the second floor were two rooms for the meetings of the two houses, with a hall between. As the second story was supported by columns, the entire lower floor was available for public gatherings. In the garret were stored the arms of the militia. Previous to its erection, the general court met at the church. The original building served the State for three-fourths of a century.

The second State house, built of brick, with brown-stone trimmings, was completed in 1796, at a cost of \$52,000. It was a costly structure for the period, and various devices, including the inevitable lottery, were resorted to to raise the funds for its completion. It is now used for municipal offices and for the meetings of the common council.

The present capitol, on the elevated plateau near the western border of Bushnell Park, is a fire-proof marble structure, a trifle over 295 feet long, with a depth in the center of 189 feet, and a height to the top of the crowning figure of 256 feet. In addition to commodious halls for the senate and house, and rooms for legislative committees and executive officers and commissions, it furnishes accommodations for the supreme court of the State, and for the State library. In the western vestibule are deposited the faded and tattered battle-flags borne by Connecticut regiments during the war, overlooked by

a bronze statue of Governor Buckingham. Statues in marble of eminent sons of the commonwealth adorn the exterior walls, and this is but the beginning of the work. Ground was broken in 1872, and the building was ready for occupancy in 1878. Up to January, 1885, the total expenditure for land, construction, furniture, and belongings, reached \$3,342,550. For architectural beauty, convenience, and solidity, it has received unstinted praise from visitors best qualified to pass judgment on its merits. A commission of five gentlemen had entire supervision of the work, and to the lasting honor of the State the task was performed with the most scrupulous integrity—a statement, unhappily, that can be made of few great public undertakings.

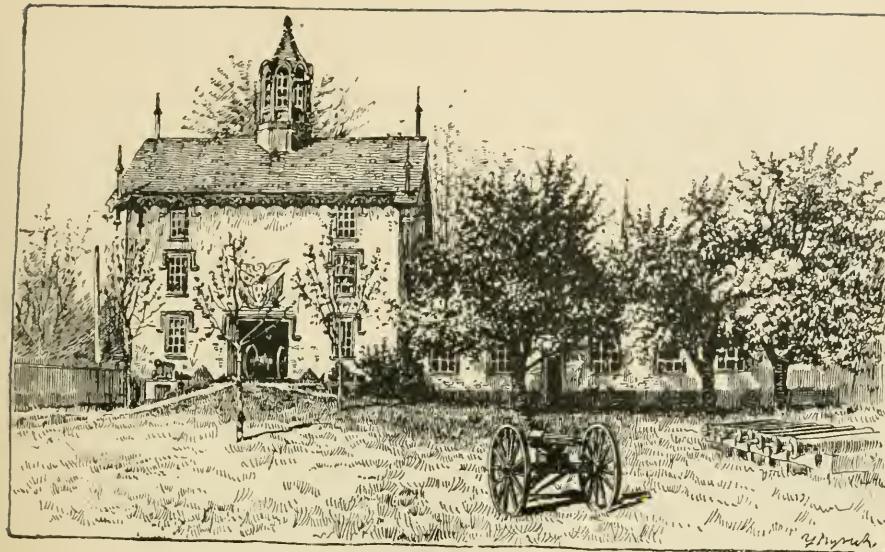
In the rear of the City Hall stands the government building, which furnishes quarters for the post-office, the United States Court, and the collection of customs. It is of cut granite, three stories high, with mansard roof. It was begun in 1873, and completed in 1883, at a cost of \$874,291, the ground having been given by the city.

Much less imposing is the Arsenal, built in 1812, on an acre of land bought for the purpose. Though the yard bristles with cannon and other emblems of war, the structure itself falls far short of the dignity of a fortress.

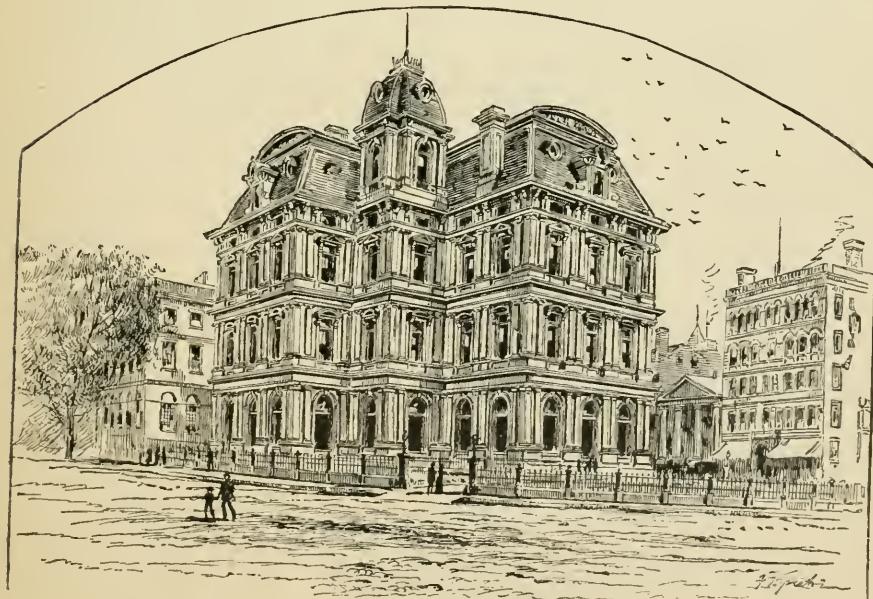
The town and probate records are kept in a fire-proof building at the corner of Pearl and Trumbull streets. Here, also, are the offices of the assessors and collector.

Hartford County (together with New Haven, New London, and Fairfield counties) was organized in 1666. It then included about half of the whole area of the colony limits. Hartford was the shire-town as it is to-day. Until the present County building was erected, the County offices were mainly in the State House; but some were in rented apartments. In 1881, the County voted to erect a building of its own. Having purchased a tract on the southwest corner of Trumbull and Allyn streets, at an expense of about \$55,000, it proceeded to erect the present structure, completed in 1884, at a cost of \$175,000.

The general appearance of the new County building is well shown in the illustration. It is a fire-proof structure, 80 feet wide and 141 feet in length. Its external walls are of pressed brick, with rubbed



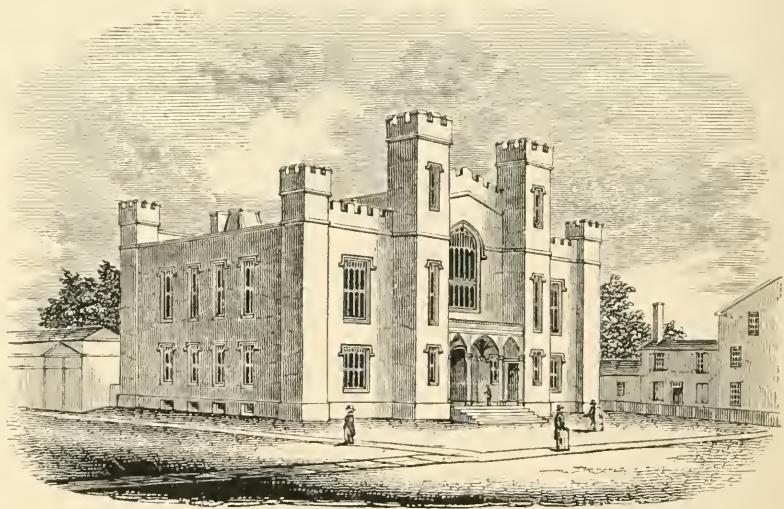
ARSENAL.



POST-OFFICE.

brown-stone trimmings. In it are the Superior Court rooms (civil and criminal), court of Common Pleas, judges' rooms, jury rooms, State Attorney's office, room for members of the bar, clerks' offices, library, Sheriff's office, County Commissioners' and Treasurer's offices, and vaults in which are contained the archives of the County for more than 200 years.

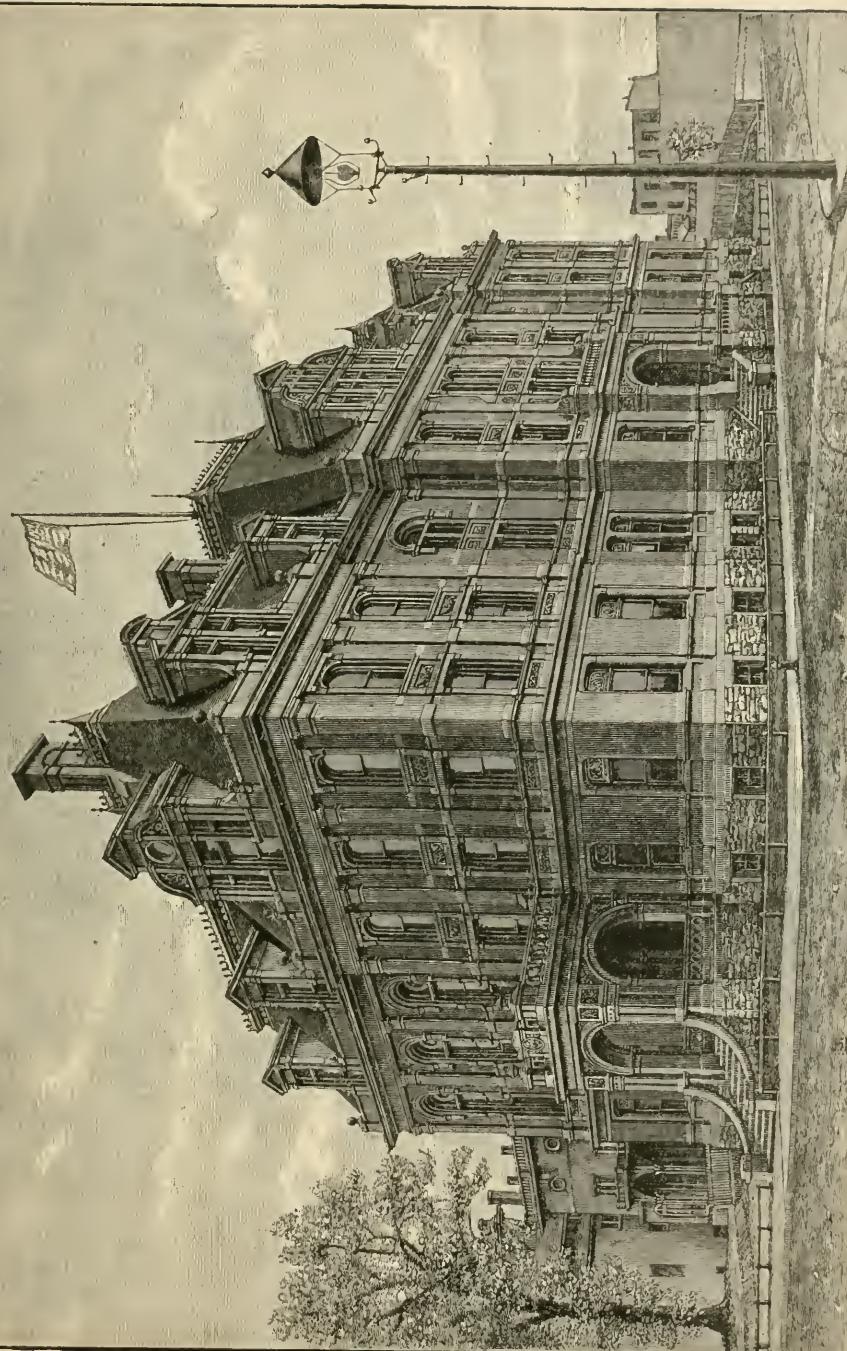
PUBLIC LIBRARIES.



ATHENÆUM.

In 1839, the Librarian Company, organized in 1774, and afterwards known as the Hartford Library Company, was merged in the Hartford Young Men's Institute, conveying to it three thousand volumes. In 1842, largely through the munificence of Daniel Wadsworth, the Wadsworth Athenaeum was incorporated, and proceeded to erect the building since known by that name. It was arranged in three divisions, the northern for the Institute, the central for an art gallery, and the southern for the Connecticut Historical Society. It has a frontage of one hundred feet, and a depth of seventy in the wings, and eighty in the main body. The style of architecture is castellated Gothic, and the material cream-colored granite.

In 1878, the corporate name of the Institute was changed to the Hartford Library Association. It now contains about 35,000 volumes, in which the element of standard and current literature is largely rep-



COUNTY BUILDING.

resented. A small annual fee is charged for the privilege of drawing books, as the income from assets is alone insufficient to meet running expenses and to buy new works as they appear.

Another public-spirited citizen, David Watkinson, at his death, in 1857, bequeathed \$100,000, with a residuary interest in his estate, for the establishment of a free library of reference in connection with the Connecticut Historical Society, giving \$5,000 more to enlarge the building for the purpose. It was opened to the public in September, 1866, and its privileges are free to citizens and visitors. January 1, 1889, its shelves held 42,521 volumes, selected on account of special and permanent value, at a cost of \$92,525.

The State Library of Connecticut, open daily for consultation in the spacious quarters assigned to it in the new capitol, contains about 12,000 volumes, including many valuable manuscripts, and rare works relating to the history of the commonwealth, and the law reports of other States. It is one of the best collections of the kind in the country. The walls of the room are adorned with the portraits of the governors of the Colony and State, the series being nearly complete.

There are other large libraries not strictly public, but readily accessible to scholars interested in particular lines of research. That of Trinity College contains over 29,000 volumes, besides 16,000 unbound pamphlets, and that of the Hartford Theological Seminary, 43,000 volumes, with 15,000 pamphlets. The public schools, professional societies, and the various associations formed for charitable purposes, have their respective libraries, making an aggregate, for the city, of over 280,000 volumes.

THE CONNECTICUT HISTORICAL SOCIETY

was incorporated in 1825, "for the purpose of discovering, procuring, and preserving whatever may relate to the civil, ecclesiastical, and natural history of the United States, and especially of the State of Connecticut." It has always included among its officers and members many names prominent in literature and education, and in the affairs of church and State. In 1844, the society was provided with permanent quarters in the south wing of the Athenaeum, founded by the generous donor in part for its accommodation. At the death of

Rev. Thomas Robbins, D. D., in 1856, his library became the property of the society. He had been a pioneer in exploring the dark corners of ancient garrets in search of old books and pamphlets, and the collection gathered under such favorable conditions is now invaluable. The society, through gift and purchase, has accumulated many historical portraits, relics, and manuscripts. Its library contains 22,000 volumes, which, with pamphlets and manuscripts, are open to the inspection of students, under needful regulations. The public have free access to the privileges of the rooms.

A few of the articles preserved here may be mentioned, as illustrative of the broad scope of the undertaking. Among them are the box which brought the charter from Charles II.; Elder Brewster's chair which came in the Mayflower; General Putnam's sword and tavern sign; Benedict Arnold's watch; the shirt and vest worn by Colonel Ledyard when murdered with his own sword at the storming of Fort Griswold; Nathan Hale's camp basket and powder horn; a mail bag, about the size of a modern reticule, used in 1775 between Hartford and New Haven; many Indian weapons and implements, etc.

Some things are not to be found here. Early in the war a well dressed woman from a distance, after inspecting with interest the various curiosities, asked to be shown the whistle for which Benjamin Franklin paid too dear, as she had been told that it belonged to the society. Never caught napping, the lady in charge submitted to her gaze an ancient pitch-pipe, after due examination of which the visitor departed, fully satisfied that she had seen the instrument which sounded the key-note to the wisdom of Poor Richard's proverbs.

THE ATHENÆUM ART GALLERY.

A valuable collection of paintings, originally brought together as a loan exhibition, was purchased by subscription in 1855, and presented to the Athenæum. It includes the battles of Bunker Hill, Trenton, and Princeton, the death of General Montgomery, and the Declaration of Independence, by Colonel Trumbull; Mount *Ætna*, by Thomas Cole; Benjamin West, by Sir Thomas Lawrence; many choice portraits, landscapes, etc. The lower floor is devoted to statuary and models. In 1863, the number of paintings reached 139, and some possessing great interest have since been added, among them the

Fight in Mobile Bay. Under the patronage and supervision of the Hartford Art Society, an art class meets regularly at the rooms for competent instruction. The galleries are open to the public without charge.

A family long and prominently identified with the affairs of Hartford has recently offered to give \$250,000, provided the amount is increased by the subscriptions of others to \$400,000, for the establishment of a free library and art gallery. The work of raising the money is now in progress. The plan contemplates the erection of a large and ornamental fire-proof building for the uses of the Historical Society, the Athenæum, and the Watkinson and Hartford libraries, and also the creation of a permanent fund, the income from which can be applied to the purchase of books and works of art.



GOODWIN BLOCK.



THE OLD CHARTER OAK.

THE CHARTER AND THE CHARTER OAK.

The charter procured from Charles II by Gov. John Winthrop in April, 1662, secured to Connecticut the right of independent self-government, which the people had in reality exercised from the date of the first settlement. At the time when the extraordinary privileges were granted, the youthful monarch and his venal court had not learned the pecuniary value of such franchises. As the domain included in the grant extended westward to the South Sea, the New Haven Colony, hitherto independent, was soon forced to accept the union which has been so beneficial and honorable to both. Toward the close of the reign of Charles II strenuous efforts were put forth by the agents of the king to secure an annulment of the charter.

After the death of Charles, Sir Edmund Andros arrived in December, 1686, armed with a commission from James II as governor of New England, and fully determined to extend his authority over Connecticut. October 31, 1687, attended by a retinue of soldiers, he came to Hartford and demanded the surrender of the charter. The General Court met at the inn to confer with the royal governor. In the evening the charter was brought in and laid upon the table. Suddenly, according to the tradition, the lights were extinguished, and in the darkness Capt. Joseph Wadsworth carried off the precious document and secreted it in a hollow tree. When the

candles were relighted the paper was not to be found, and no one could explain its disappearance. A few months later James II was deposed, and in May, 1689, the charter government was resumed as if no interruption had occurred. It practically remained in force until the adoption of the new constitution in 1818.

The original charter, engrossed on parchment and enclosed in a frame made in part from the wood of the tree which concealed it, hangs in the office of the Secretary of State in the Capitol.

The charter oak, ever an object of affectionate veneration, was blown down in the gale of August 21, 1856. It measured twenty-one feet in circumference seven feet above the ground, and thirty-three feet at the base. A computation made by Prof. John Brocklesby, from the prostrate trunk, fixed its age at nearly a thousand years, showing that it must have been a lusty tree when the Normans conquered England. The name has been borrowed by many public and private enterprises.

SCHOOLS.

One might have assumed with reason that the people who formed the Connecticut Colony in 1635-6 would certainly care for the best interests of their children, and it is not surprising to find by the colonial records that as early as 1637 there was established in Hartford a town school that has had an unbroken existence to the present time, appearing now in the Public High School. There is no doubt that this and similar ones in the Massachusetts Bay and New Haven Colonies were good schools. They were evidently modeled as nearly as possible after the Latin and Greek grammar schools of England, in which the founders of these colonies had been educated, and after attending which many of them had become distinguished graduates of the English universities.

This first school in Hartford was supported partly by the town and partly by the tuition fees of the scholars. Before 1650 there does not appear to have been any legal enactment on the subject of education, but in that year the Code of Laws was adopted in which it was decreed that "Inasmuch as the good education of children is of singular behoof and benefit to any commonwealth, the selectmen of every town shall have a vigilant eye on their brethren and neighbors to see that none of them shall suffer so much barbarism in any

of their families as not to teach by themselves or others their children and apprentices so much learning as may enable them to read the English tongue and the capital laws of this Colony, upon the penalty of 20 shillings therein." These provisions were strictly enforced, and, if necessary, the authorities could assume the care of neglected children. Such was the beginning of common schools supported by a general tax.

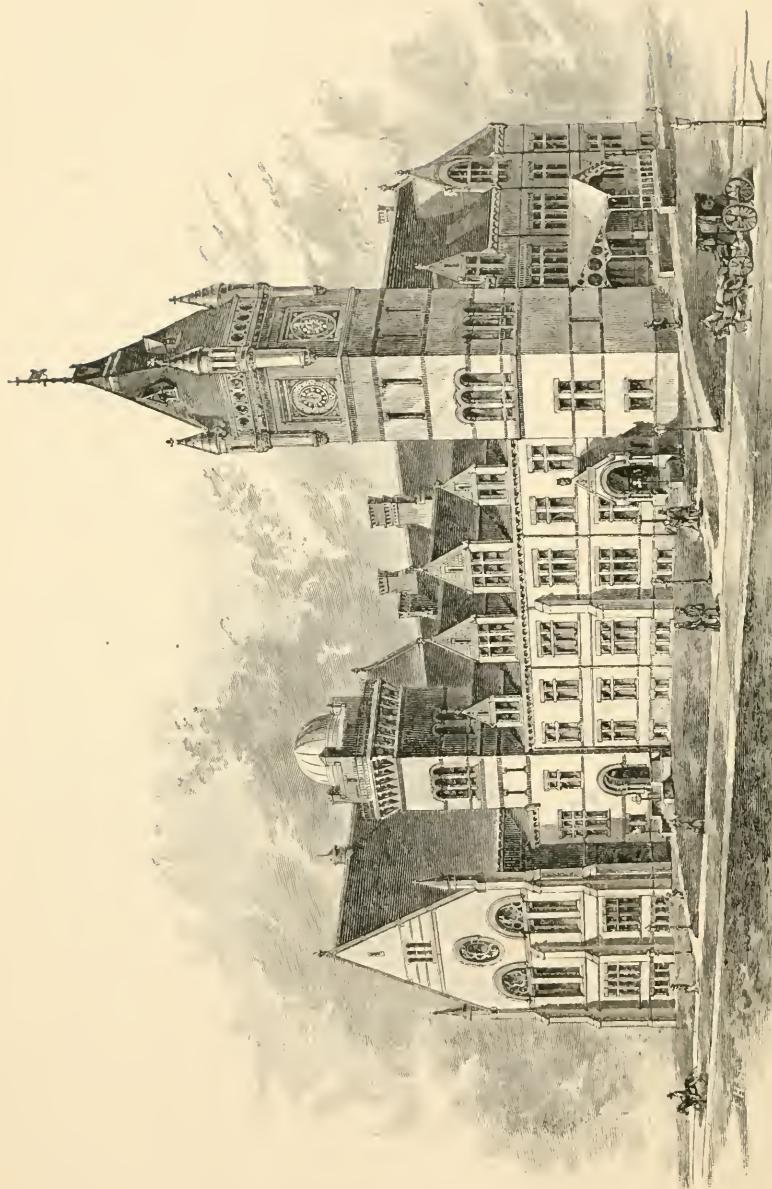
About the same time the classical school received successively four gifts of money or land, the largest and last being the legacy of Governor Edward Hopkins, from whom the school has since been named. This gift coming in the darkest times must have been inexpressibly grateful to the struggling colonies. The "true intent" of this bequest was to give encouragement "to those foreign plantations for the breeding up of hopeful youths, both at the grammar school and college, and for the public service of the country in future times." He thus "made New England his heir," and saved the little candle of classical learning to throw its beams to future generations.

Industrial training was provided for by an early statute which required parents to bring their children up to some honest calling in husbandry or trade, profitable to themselves and the commonwealth.

Early religious instruction was a large element in education.

Until 1761 the care of the common schools was in the hands of the magistrates and the clergy, and the children of the two churches attended respectively the one under the care of their own church officers. But in that year the people of the two societies petitioned to be divided into two districts separated by the Little River and called the North and South Districts. In 1798 the North District was divided into the First North, now Centre, and the Second North, or North Middle, and in 1814 the West Middle was set off; these clumsy names now carry with them the suggestion of the old North and South districts of the little town. In 1833 the Arsenal district was formed, and in 1835 the Gravel Hill, both on the north: later the Washington, the South East, the North East, and the North West, making ten districts in all. The straggling lines of these divisions might well be straightened and made to accommodate the changed distribution of homes.

So happily had the laws of the State defended its people from the



NEW HIGH SCHOOL BUILDING, ERECTED 1882 83.

“barbarism” of illiteracy that it was the glory of Connecticut till 1795 that a native of the State could rarely be found who could not read or write. In the matter of elementary instruction the Land of Steady Habits surpassed the other States, and was, as President Noah Porter called it, “the star of hope and guidance of the world.”

But a snare was before the people into which they fell. The sale of the public lands of the Western Reserve of Ohio gave to Connecticut a fund of \$1,200,000 which was set aside forever for the support of common schools. The sale was made in 1795, and in 1820 the present rule was adopted that appropriates the interest of this fund to the towns according to the number of children from four to sixteen years of age. This fund was increased in 1836 by half the share of the State in the surplus revenue in the national treasury. The early results of this gain were disastrous for a whole generation. The towns forthwith began to depend upon the fund for all the school expenses, or eked them out with “odious” rate bills. No other such retrograde movement ever occurred in this country: the terms were short, the teaching often poor, the pay low, and the schools unclassified. The interest of those who cared for good instruction turned to private schools and academies, and the common schools were regarded with apathy. This condition was not changed till 1854, when the State returned to the policy which had been followed for more than 150 years, and a vast improvement has been developed since that time.

Hartford, however, seems never to have suffered from the indifference that was so marked in smaller places, though doubtless the school of the early time was extremely plain and limited at the best. In 1810 the three schools of the First North or Center District were united with a view to their improvement. A quaint little book published in 1832, called “An Historical Description of the Centre School,” sets that forth as remarkably well managed and well cared for by the district, which was then largely occupied with residences. Later the old stone school-house of those days was replaced by a much better brick building. In 1866-8 the present building was erected and named the Brown School, after Flavius A. Brown, who was for thirty-seven years the untiring and liberal-minded chairman of the district committee. A large part of this district is now

occupied by business firms, and the disposition of the tax-payers is notably liberal and prompt. The Brown School is a very pleasant

and substantial building; it is high, but is supplied with four separate staircases, and the rooms are all attractive and cheerful and abound with evidences of the thoughtfulness of the teachers and officers for the somewhat polyglot company that gathers there as to a home.

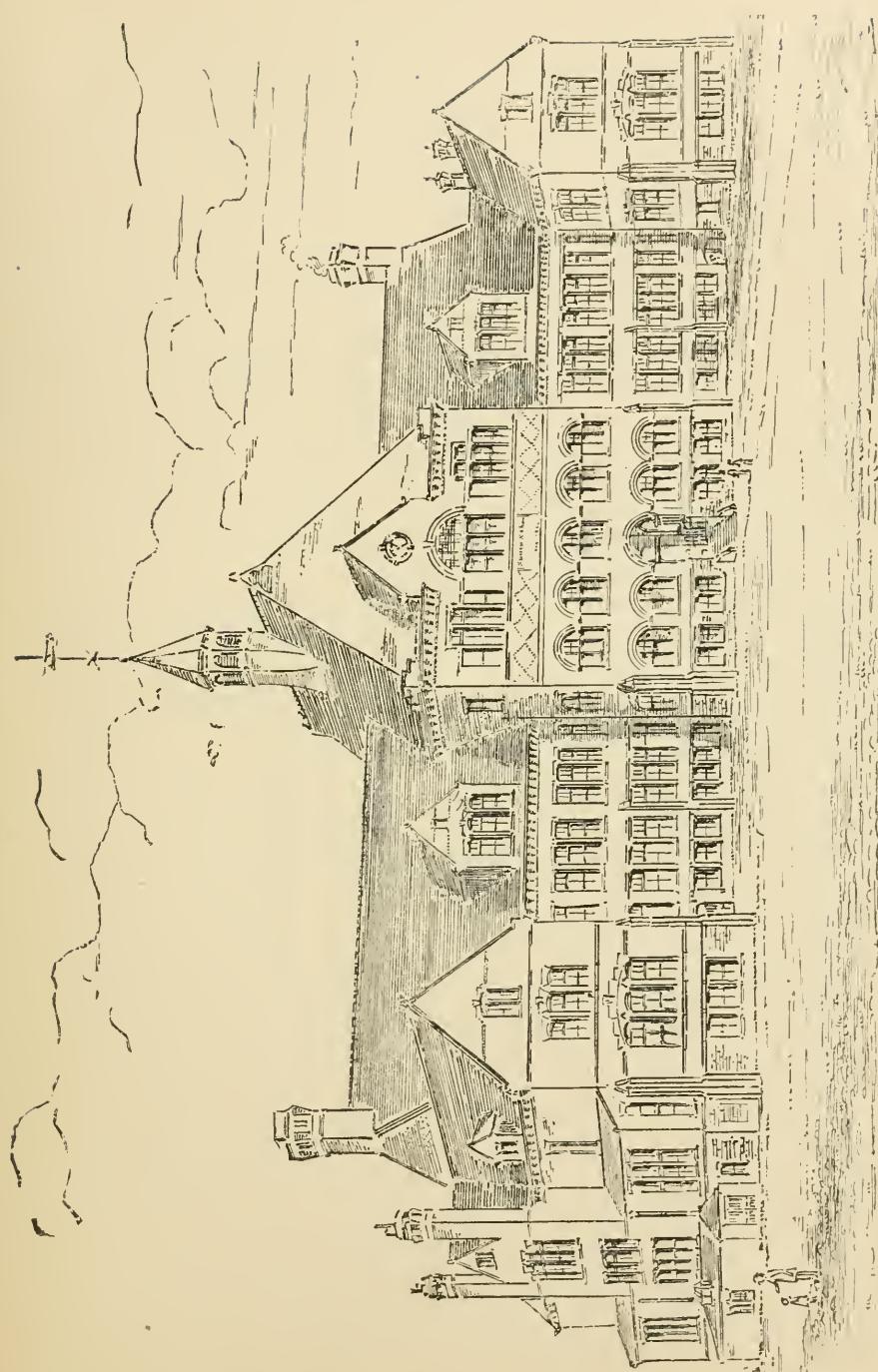


BROWN SCHOOL BUILDING.

For thirty-three years Frederick F. Barrows has cared for this important school with paternal interest, and none in town has produced better results. A library, said to be as good as that of any grammar school in New England, provided for the older pupils, has of late years largely spoiled the taste for dime novels. Liberal additions are yearly made to the teachers' reference library. A new two-story building is now finishing for the kindergarten department. The Pearl Street school belongs to this district.

The South School District has five good buildings.—the Wadsworth Street, the Charter Oak Avenue, the Lawrence Street, the Parkville, and the Wethersfield Avenue schools, in all accommodating about 2,300 pupils and fifty teachers. This district, like the Center, has been greatly favored with able and faithful servants as principals and chairmen of the committee. From about 1840, when ex-Governor Harrison was the young principal, Samuel Dodd began his careful service of twenty years as chairman. He was followed for over twenty-five years by Hugh Harbison, whose peculiarly able administration began when the needs of the district were rapidly enlarging and required a broad and high standard, which he notably brought to the work. Chauncey Harris labored here as principal for thirty-four years, giving an example of conscientious devotion and transparent goodness that deserve an honored memory. Joseph A. Graves has been principal for eight years, and he, with his able corps of teachers, maintains the high standard of the school. The fine new building in Wadsworth street was erected within three years.

The Second North or North school has been marked by a similar



SOUTH SCHOOL BUILDING.

character for thoroughness and permanency as the two preceding. Augustus Morse was principal here for twenty-six years, and C. C. Kimball chairman for fourteen. The school is now under the guidance of W. F. Gordy, and is certainly fully keeping up its record. A new building is expected in the near future.

The West Middle school stands in one of the pleasantest parts of the town, and has a large and commodious house, still new. The changes of principals have been more frequent here than in the districts mentioned above, but in spite of this the school has always stood well, and never better than now under the charge of Esther C. Perry.

The Arsenal, the youngest of the large schools, has been under the successful principalship of Willis I. Twitchell for six years; J. C. Stockwell, who preceded him, was in his place for nineteen years, till ill health caused his retirement.

The North East, the Washington and the Washington Branch, the North West, the South West, and the Gravel Hill, are respectively smaller schools, and in the main very good.

Three evening schools are held during the winter in Asylum, Morgan, and Lawrence streets; these accommodate an average attendance of about 200 pupils over fourteen years of age.

The schools of the town of Hartford, with the exception of the High School, are carried on by the districts in which they are situated. The disadvantage of this method is the likelihood that the smaller ones on the outskirts of the town may not be supplied as bountifully or cared for as thoroughly as the others. The great advantages, on the other hand, lie in the sense of local responsibility felt in their own school by the members of each district; they elect their own officers, the work depends on their own public spirit. If a new school-house is to be built, however lively the fight may be about it, all know that the needs of their own children demand it, and the discussion has always ended in producing a good building. Such schools are frequently visited, and the selection of teachers allows of a valuable diversity, as in one district they may be brought from any place whatever that will furnish the best obtainable; in another, graduates from the High School, who have afterwards graduated from the excellent State Normal School, may be taken; in

another, they may be selected on some other principle; the results being free from a mechanical and monotonous character. Last and best, the whole matter is apart from political influences. The people of Hartford are, like those of the State generally, "stable, strongly and wisely conservative, justly proud of past history, and historically averse to innovations." In no case have they shown wiser conservatism than in resisting the pressure to renounce this district system that has borne such good fruit for so long.

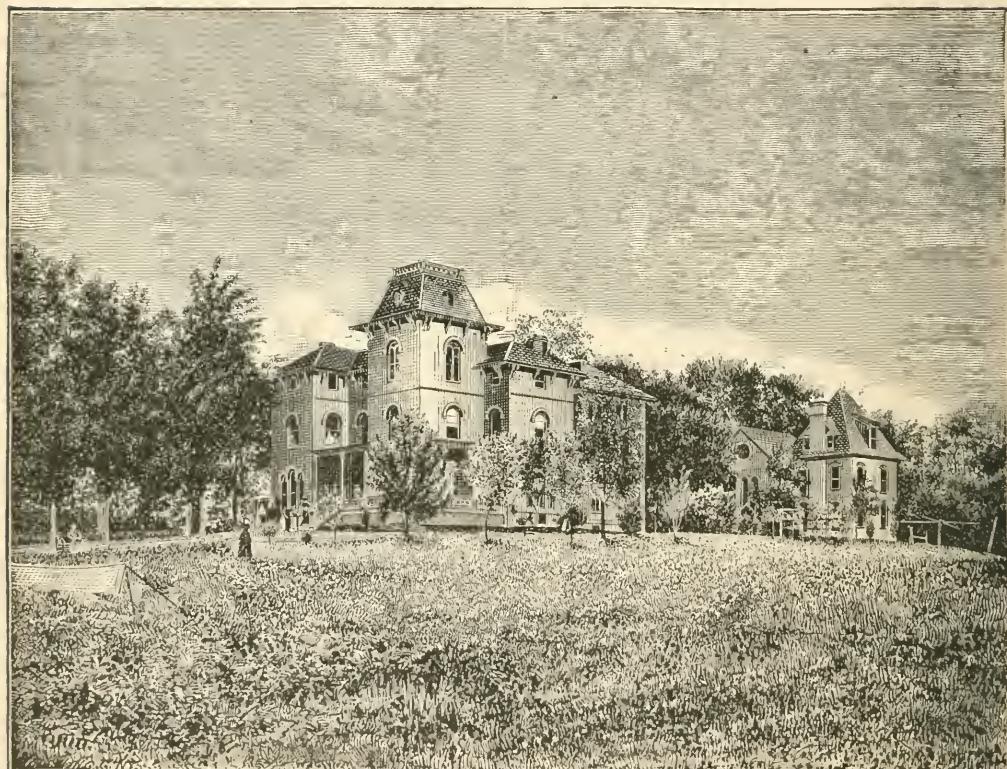
The year 1847 was one of vital importance in the history of local education. Up to that time the classical school had always been confined to boys, and an advanced school was demanded by the needs of both boys and girls. The time was ripe, but it cost a struggle that shook the whole city to establish the High School "for all the male and female children of suitable age who might wish to avail themselves of it." The course of this institution has been one of the brightest parts of the history of the city. Its existence has been nearly covered by the terms of three principals,—T. W. T. Curtis for ten, Samuel M. Capron for nine, Joseph Hall for fifteen years,—evidence of the stability and excellence of its management. The Hartford or Hopkins Grammar School, the original town school, had been placed by the town in the hands of trustees, who at the opening of the High School practically incorporated that with the new one, thus making a clear historical continuance of a town school from 1637, a period of over two hundred and fifty years.

The pride and affection felt for the High School by its members, past and present, and the confidence of the city, appear in countless ways, notably in the liberality that supplied the place of the school-house burned in 1882 with the noble fire-proof building, fully provided with all suitable helps to learning,—library, observatory, drawing-room, working and lecture laboratory, type-writing, stenography, etc., etc. The high stand which its graduates take at college and in the community amply justifies all that has been spent on it. The existence of the High School immediately gave unity to the districts of the town, being a goal for all scholars, and raised the interest and grade of work in all their schools.

Each district elects its own committee and pays its own taxes; the High School Committee are elected by the town. General inter-

ests, such as inspection, selection of text-books, vacations, etc., are in the hands of a non-partisan Board of Visitors, nine in number.

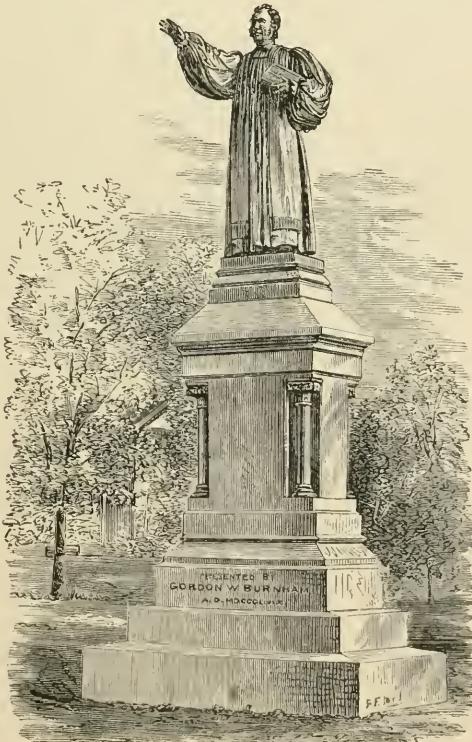
The spirit and methods of the common schools in Hartford have been those of thoroughness and faithfulness. While it is evident that various matters are subject to improvement, the schools receive the hearty respect of the citizens; many families have come here to enjoy the advantages they afford, and they have had a powerful influence in raising the tone and giving models to other towns near and far.



MISS HAINES' SCHOOL.

Private schools began here with this century, and were mainly for the benefit of the girls, who had before been provided for only by the dame and district schools, assisted by the reading of good books and home influences. In 1800, Mrs. Lydia Bull Royse began a private school; Lydia Huntley, afterwards Mrs. Sigourney, opened hers in 1815; Catherine E. and Mary Beecher opened theirs in 1823.

which, in 1837, was incorporated as the Hartford Female Seminary, and was not inferior to any in the country for a long time; it is now under the care of Miss M. Louise Bacon. In 1827, Mrs. Kinneer started a school, which was later long carried on by the Misses Draper. The Rev. Isaac Bird had a school for boys at the Pavilion. In 1861, Mr. T. W. T. Curtis had a boarding-school for young ladies for some years. In 1873, the Seminary of Mt. St. Joseph began as a boarding-school on Farmington avenue, and is a large and well-equipped institution. In 1876, Miss Elizabeth H. Haines opened a day and boarding-school, which is now delightfully situated on a western slope of the town. In 1885, the Bowen School for boys, now conducted by Messrs. C. C. Stearns and L. F. Reed, began in Collins street, and about the same time Mr. G. W. Steele opened his in Wethersfield avenue. All these are finely situated and have an excellent reputation. Beside these there are several parish schools and many schools for young children, and private instruction is abundant.



STATUE OF BISHOP BROWNELL.

[On the Campus of Trinity College.]

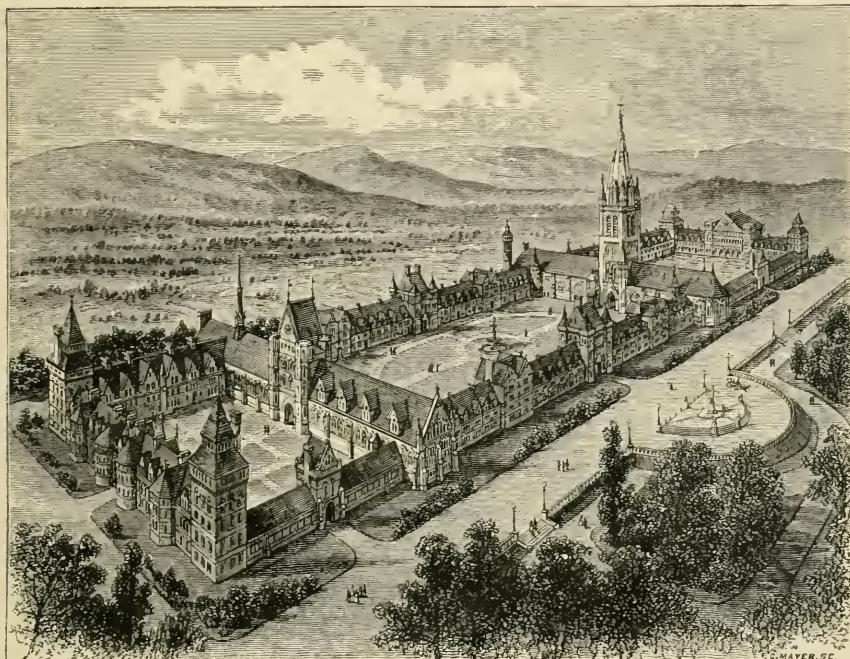
TRINITY COLLEGE.

The charter for a second college in Connecticut, under the name of Washington College, was granted by the General Assembly in 1823; and the trustees were empowered to locate the institution in such town in the State as they should judge most expedient. Very liberal contributions to the funds of the new college, amounting to over three-fourths of its original endowment of \$50,000, were made by the people of Hartford, and this city was chosen as the permanent home of an important seat of liberal study. A site of fourteen acres on a slight elevation, then described as about half a mile from the city, was purchased, and the erection of two sightly halls of brown stone was begun in June, 1824. These buildings, with a third which was erected in 1845, formed a line running north and south on the ridge of what are now the Capitol grounds. The campus was planted with trees, and advantage was taken of the natural capacities of the site to make it very beautiful and attractive. In course of time Bushnell Park was laid out to the north and east, so that the attractiveness of the spot was much enhanced, and the college seemed to be brought nearer to the city.

With a well-furnished library, a useful cabinet for work and illustration, a learned faculty, and a gentlemanly body of undergraduates, the college has been for all these years a source of pride to the city, and has furnished important factors to its intellectual and social life. At various times it has received gifts from liberal citizens of Hartford; the largest, before the removal to its present site, was the legacy of Chester Adams, in 1871, who made the college a residuary legatee, thus increasing its endowments by about \$68,000. Some years before, when an attempt was made to add \$100,000 to the funds of the college, there were eighteen subscriptions of \$1,000 or more in Hartford. In 1845, the name of the institution had been changed to Trinity College.

In 1872, the city having become the sole capital of the State, the trustees were persuaded to sell the site of the college, with the entire campus, to the city for the sum of \$600,000, that it might be offered as the most suitable location for the state house; and a new site was chosen for the college on the trap-ridge which lies to the south of

Vernon street and the west of Broad street. On this commanding site, with a magnificent view of two valleys, bounded on the one side by the Bolton Hills and on the other by the Talcott Mountain range, about eighty acres of land were purchased; and President Jackson called the skill of a famous English architect to prepare plans for an unequalled pile of academic buildings. He believed that a well-estab-



TRINITY COLLEGE WHEN COMPLETED.

lished college, having sufficient funds to provide for its present needs and the hope of great growth in the future, and about to transfer its work to a new place, should have plans for all the buildings which it was likely to require in the course of many years. He therefore caused designs to be made on a very large scale, more extensive and more elaborate than have ever been made for any similar purpose. They include, as finally arranged, a large central quadrangle, 600 by 300 feet, with a smaller quadrangle, 300 feet square, at either end, all in what is called the early secular French Gothic style of architecture. The accomplishment of the whole plan must be left for future generations; at present the west side of the great quadrangle is com-

pleted, containing rooms for the junior professors and for about 125 students, an ample number of lecture rooms, a fine museum or cabinet, a handsome little chapel, and temporary provision for the library.

The excellent arrangement of the buildings is largely due to the careful and pains-taking labors of President Pynchon, who succeeded



TRINITY COLLEGE BUILDING.

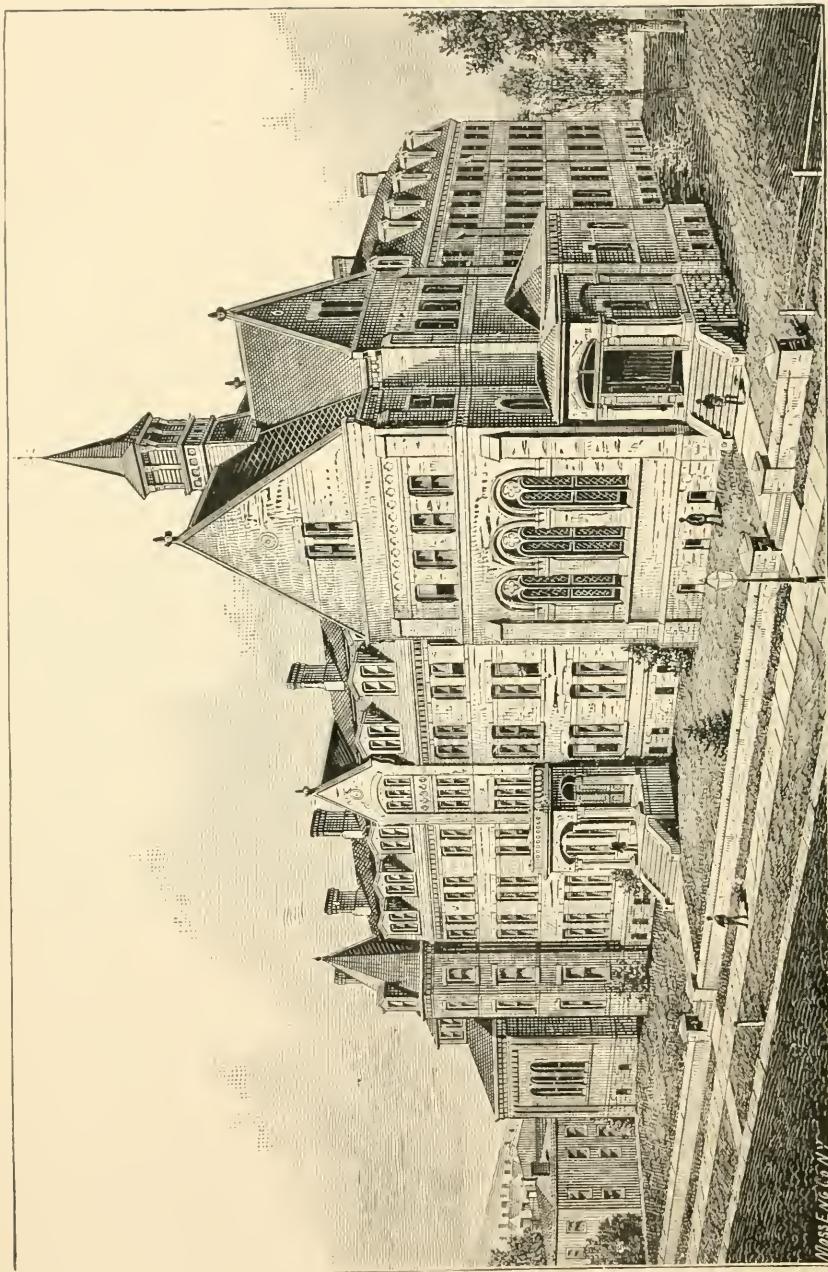
Dr. Jackson before the work at the new site had been begun. The central part of the present buildings bears the name of Northam Towers, being the gift of Charles H. Northam, who also, at his death in 1882, made liberal additions to the general funds and to the library funds, and endowed a new professorship. Legacies from his wife two years later increased the Northam benefactions to about \$225,000. A fine and well-furnished gymnasium stands outside of the space assigned to the quadrangles on the north campus, in large part the gift of one whom we still claim as a Hartford man, Junius S. Morgan, of London; and last year the Jarvis Hall of Science was

completed, which occupies the corresponding situation on the south campus. This latter building, which contains the chemical and physical lecture-rooms and laboratories, is unequaled in the excellence and completeness of its arrangements, and affords excellent facilities for the practical work of the recently organized courses in science. Besides the buildings mentioned, there is a modest observatory on the south campus; and the residences of the president and one of the professors stand on Vernon street. The campus, on which much labor has already been bestowed, is destined to be one of the most beautiful and attractive parts of the city. Three of the students' societies have handsome chapter-halls, two in the neighborhood of the college and one on Washington street.

Two of the prizes offered to undergraduates each year are on foundations established by residents of Hartford: the Tuttle Prize, founded in 1859 by the legacy of Miles A. Tuttle, and the Goodwin Greek Prize, founded in 1884 by Mrs. James Goodwin; and the college is also indebted for several scholarships to the bounty of our citizens, the most liberal donation for this purpose having come from the Hon. Isaac Toucey. It should be added that the last large gift to the college, a legacy of \$50,000, was from a native of this city, Stephen M. Buckingham, of Poughkeepsie, N. Y.

Trinity College offers the opportunity for instruction in the arts, the course following the general lines of the ancient curriculum, but with wise and ample adaptation to the needs of the day and the requirements made upon modern scholarship; a large part of the course is prescribed, but there is a considerable range of elective studies. There are also a course in science and a course in letters and science, in both of which special attention is paid to advanced work in physics and chemistry and to the mathematics and the modern languages, and in the latter of which a certain amount of Latin is retained.

The advantages offered by the college under the administration of the present President, the Rev. Dr. George Williamson Smith, have been continually increasing, and the number of names on the roll of students is larger than at any previous time. The library now contains some 30,000 volumes, one-third of which have been acquired during the last six years; and before long it will be absolutely necessary to erect, on the south side of the great quadrangle, a large and fine library building.



HOSMER HALL, HARTFORD, CONN.

Mass. Engr. Co. N.Y.

The number of graduates of the college is over 900, of whom about 650 survive, and a large part of whom occupy prominent and influential positions in the church and in the State, in colleges and universities, in the courts, at the bar, and in the practice of medicine, as well as in active business pursuits. So her officers and students within the walls, and her alumni in the duties of life, are carrying out the teaching of her motto, "*Pro Ecclesia et Patria.*"

HARTFORD THEOLOGICAL SEMINARY.

The Hartford Theological Seminary (Congregationalist) is now in its fifty-fifth year. When first organized, in 1834, it was located at East Windsor Hill; but in 1865 it was removed to this city, occupying for some years three buildings on Prospect street. In 1879, the fine edifice on Broad street was completed through the munificence of the late James B. Hosmer, and called in his memory "Hosmer Hall." This building, which is located in the highest part of the city, is simple in design, and is substantially and practically constructed of brick with brown-stone trimmings, with particular attention to sunlight, fresh air, good drainage, etc. It consists of a main building, four stories high, with two large wings of the same height, and with semi-detached library and music buildings; while in the rear is a large gymnasium fully equipped with the best modern apparatus. The buildings contain a chapel, six ample lecture-rooms, library, reading-room, reception-room, public office, between fifty and sixty suites of students' rooms (study and bed-room for each student), bathrooms, dining-room, kitchen, and laundry. It is heated by steam and lighted with gas. Among the appliances of the institution the most important is the excellent library of about 43,000 volumes and 15,000 pamphlets, including several special collections of great value, together with an abundant supply of current newspapers and reviews. The library owes its size and exceptional equipment mostly to the liberality of Newton Case.

The current catalogue of the Seminary shows that the faculty comprises five full professors, three associate professors, two instructors, and two non-resident lecturers. The president is the Rev. CHESTER D. HARTRANFT, D.D. The number of students this year is 43, with 4 more absent on leave. Their geographical distribution is as follows:

14 from Massachusetts, 6 from Connecticut, 3 each from New York and Vermont, 2 each from Georgia, California, Turkey, Bulgaria, and 1 each from Maine, Rhode Island, Michigan, Wisconsin, Indian Territory, and Scotland. Eighteen colleges are represented: Williams 11, Amherst 8, Harvard 5, Middlebury and University of Vermont each 3, Bowdoin, Dartmouth, and Drury each 2, Boston University, Brown, Hamilton, Atlanta University, Gammon, Olivet, Wake Forest, Washburn, Laval, and Marsovan each 1. The prosperity of the institution is evidenced by the fact that the Junior Class is as large as the other two together. One student is pursuing an advanced course at Berlin.

In addition to the advantages for its students, the Seminary offers to the citizens of Hartford the free use of its library and reading-room, an annual course of from four to six lectures on the Carew Foundation (lecturer for the current year, President Francis L. Patton, of Princeton College), an annual course of from three to five lectures by members of its faculty, with numerous less formal addresses and gatherings. It also grants without charge to the Hosmer Hall Choral Union the services of its conductor, and the hall and other appliances for its rehearsals. Its students are widely connected with the various churches of the city, and have rendered important service in connection with all city mission enterprises.

THE HOSMER HALL CHORAL UNION.

The Hosmer Hall Choral Union is an oratorio society organized in 1880 under the auspices of the Theological Seminary. Its first conductor was Rev. William W. Sleeper, who was succeeded, in 1882, by Professor Waldo S. Pratt. Its membership has ranged of recent years from 175 to 225, and during its history over 1000 different persons have enjoyed the benefits of its drill and education. It usually gives three public concerts each season, with competent soloists and orchestra. Among the larger works successfully rendered by it are Handel's "Messiah," "Samson," "Jubilate," Haydn's "Creation," and "Imperial Mass," Bach's "Christmas Oratorio," Mendelssohn's "Elijah," "Hymn of Praise," and forty-second and ninety-fifth Psalms, and it is now studying Gounod's "Mors et Vita." The rehearsals are held every Monday evening during the winter at Hosmer Hall. The conditions of membership are a correct ear, fair voice, and moderate ability to read music at sight.



THE COURANT BUILDING.

THE PRESS.

THE COURANT, established in 1764, has long been the oldest newspaper in the country, and from its files the materials for a great deal of written history have been drawn. In its columns were discussed by the ablest writers of the colony the grievances which led to the Revolution, and after the acknowledgment of our independence, the troubles and perils from which escape was sought in the formation of the federal union. During its long career it has absorbed many weaker papers, and has seemingly fattened on the food. In the latest instance, the *Press*, while surrendering the name in 1867, took possession of the editorial rooms. A quarter of a century ago the "live matter" was confined to three-fifths of the second page and to a column and a half of dispatches on the third page. Now, considerably over one-half of a quarto of forty-eight columns is devoted to news, literature, correspondence, and the discussion of current events. Then, one young man wrote the editorials and handled the night dispatches, while another gathered and prepared the city items, with some aid from the present business manager, who was superintendent of the mechanical department. Now, in addition to a corps of paid correspondents, ten or twelve writers find abundant occupation in supplying the demand, repeated with inexorable regularity six days in the week, for fresh and interesting matter. The *Courant* is the only morning newspaper in Connecticut which is a member of the Associated Press, and during its career of one hundred and twenty-five years its name has become known throughout the entire country, and its position of leadership among Republican journals is everywhere recognized. The proprietors are Gen. Joseph R. Hawley, Charles Dudley Warner, S. A. Hubbard, William H. Goodrich, and Charles H. Clark. In 1880 the firm erected the *Courant* building on State street.

THE HARTFORD TIMES was established in 1817 to battle for toleration. At that period the outlook of the liberal cause in Connecticut was dark and the prospect of success unpromising. Strong before, the Federal party had been still further solidified by the unpopularity in New England of the war with Great Britain, and its arrogance was extremely odious to the minority. It commanded the vote of the

established or Congregational church, which was supported by direct taxation of the people. Yet, through the efforts of the reformers, led by the *Times*, in one short campaign the party which considered itself invincible was ignominiously beaten, and the new constitution of 1818, with its guaranties of religious liberty, secured.

Pecuniarily the paper did not prosper till the advent of A. E. Burr, who purchased one-half of it in January, 1839, and the other half two years later. He started the daily in 1841. For half a century the *Times* has been conducted by him either alone or in association with other members of the family, and during the period has steadily grown in value and influence. For many years it has been one of the leading Democratic journals of the country.

THE POST, started in 1858, led a somewhat languid existence till purchased in 1867 by Marshall Jewell, H. T. Sperry, and Ezra Hall, when it became a decided power in local and State affairs. In politics it is aggressively Republican. It was published mornings till 1868, when changed to an evening issue, having secured the subscription list and good-will of the *Press*, which had been printed under the old name as an evening edition of the *Courant* after the purchase of the latter by Hawley, Goodrich & Co. in 1867. The *Post* is a quarto in form, and has a strong editorial corps.

THE CHRISTIAN SECRETARY, published weekly by Rev. Charles A. Piddock, has been the organ of the Connecticut Baptists since 1822.

THE RELIGIOUS HERALD, founded in 1843 by D. B. Moseley and continued by his sons, represents the views of the Congregationalists.

THE CONNECTICUT CATHOLIC, published weekly by M. F. Scanlan, has a large constituency.

There are two Sunday papers in Hartford—the JOURNAL, edited and published by Joseph H. Barnum; and the GLOBE, by Allen Willey.

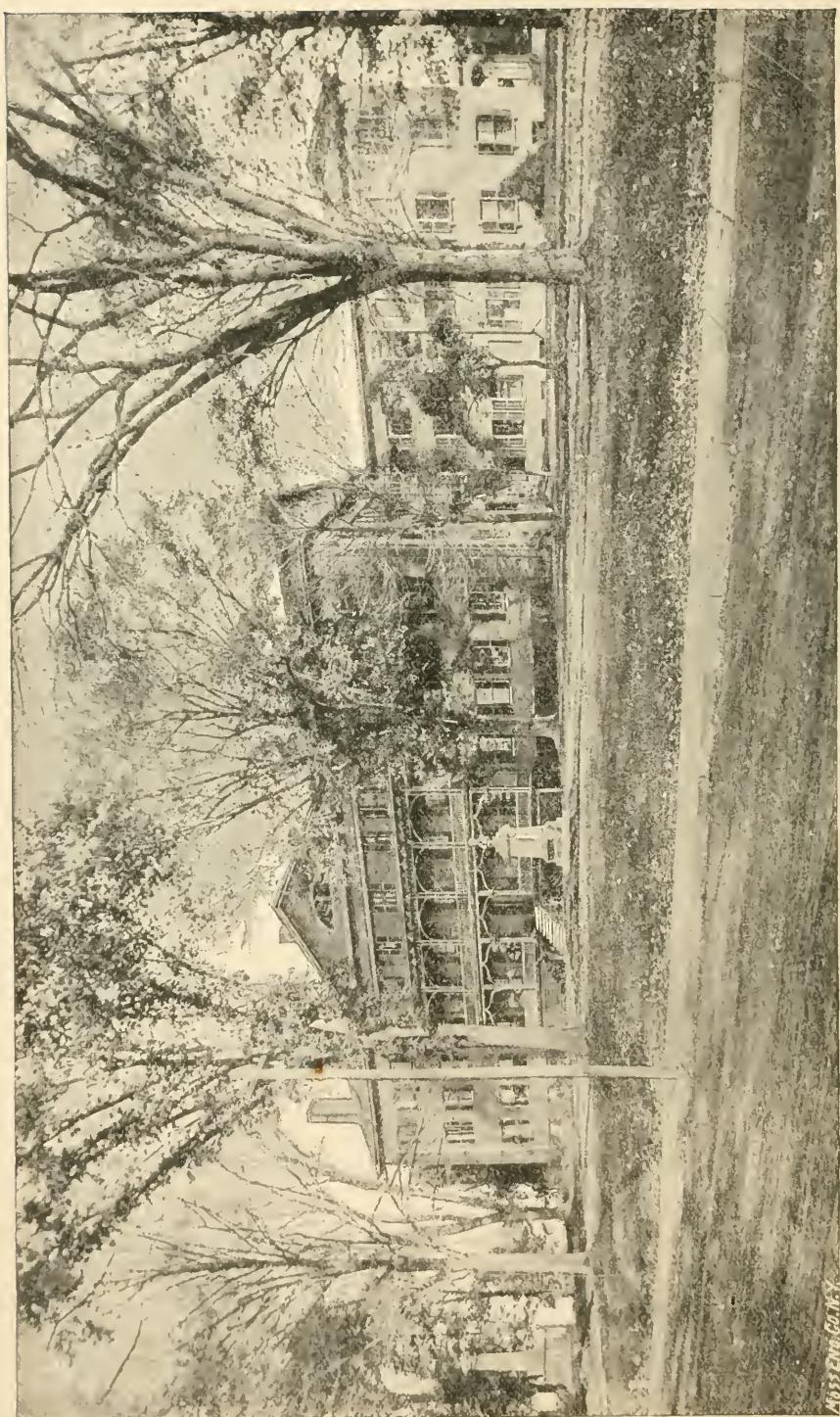
THE DAILY RECORD-TELEGRAM was formed in January, 1889, by the union of the *Telegram* and *Record*.

THE HARTFORDER HERALD is issued every Saturday in German.

Besides these are several publications devoted to special interests, the name generally indicating the purpose, as the “American Journal of Education,” the “Weekly Underwriter,” the “Poultry World,” the “Insurance Journal,” the “Examiner,” and still others issued at regular intervals by several of the insurance companies.

AMERICAN ASYLUM FOR THE DEAF AND DUMB.

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AMERICAN ASYLM.

The American Asylum for the education and instruction of the deaf and dumb was incorporated in 1816. It was adequately endowed in 1819 by the National Congress on the erroneous impression that no other school would be required for the nation, and consequently it was named the American Asylum.

Through the prolonged investigations and active efforts of Dr. Mason F. Cogswell of Hartford, in solicitude for the welfare of his deaf daughter Alice, a voluntary association of gentlemen, one of whom was the Rev. Thomas H. Gallaudet, was formed in this city in 1815 for the purpose of establishing a school for the instruction of deaf-mutes in America. This association through a committee raised the necessary funds to send a man to Europe to acquire the art of instructing the deaf, and subsequently induced the Rev. Thomas H. Gallaudet to undertake the task. Returning to America in 1816 with Laurent Clerc, a graduate of the Royal Institution for the Deaf and Dumb in Paris and afterwards a teacher in it, Mr. Gallaudet opened the school at Hartford, with Mr. Clerc as his assistant. Together they worked out a modified system of instruction which has spread all over this country. From this parent institution have sprung seventy others in various parts of the United States, and the American Asylum always has been and is now an authority and a model in matters connected with the instruction of the deaf.

The school building is situated on one of the highest spots in the city, surrounded by eleven acres of open ground, with a fine lawn and ample play-grounds for the pupils,—a beautiful and healthful location, practically an open park in the midst of the city.

The management of the school has been characterized by a wise conservatism and a genuinely progressive spirit. Its aim is to impart the power to use language, both written and oral, to well ground the pupils in arithmetic, American and English history and current events, in political, commercial, and physical geography, in the elements of physiology and hygiene, in elementary drawing, and in the duties of morality and the truths of religion. Speech and lip-reading are systematically and thoroughly taught as a part of the regular school course.

Fifteen teachers are employed in the school, four of them being teachers of articulation. All pupils over twelve years of age receive manual training three hours a day.

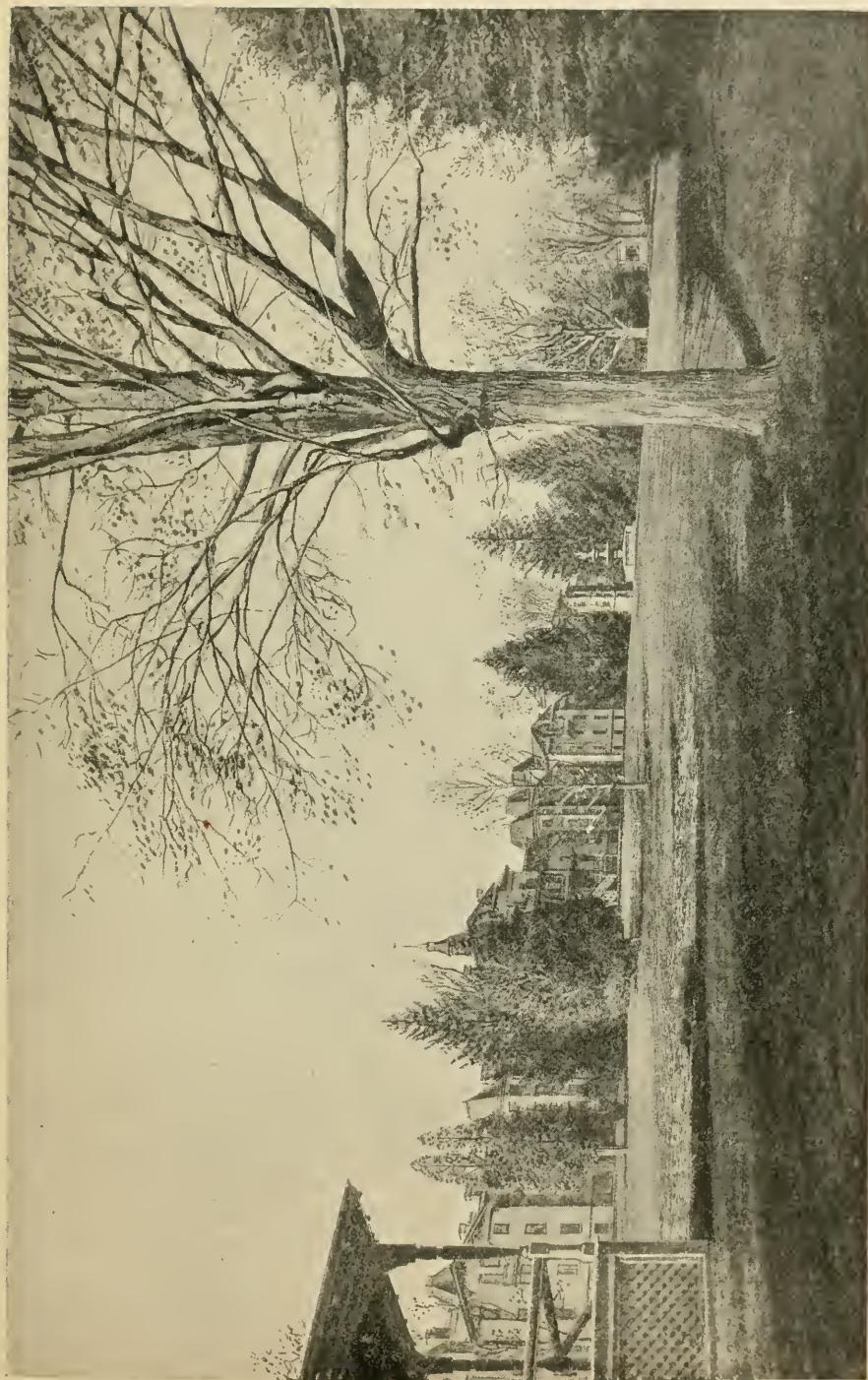
More than 2,400 pupils have received instruction in this school, and its graduates may be found in almost every State of the Union, intelligent, respected, law-abiding citizens, well sustaining themselves and their families. Among them may be found farmers, mechanics, merchants, printers, and even professional men.

The school draws its pupils from all parts of New England, and is supported partly by State appropriations and partly by the income of its own fund. Practically it is a free school for the deaf, and it is absolutely so for the destitute. The amount expended by the school in the city annually is over \$50,000. Francis B. Cooley, president; Atwood Collins, secretary; Daniel R. Howe, treasurer; Job Williams, principal.

THE RETREAT FOR THE INSANE.

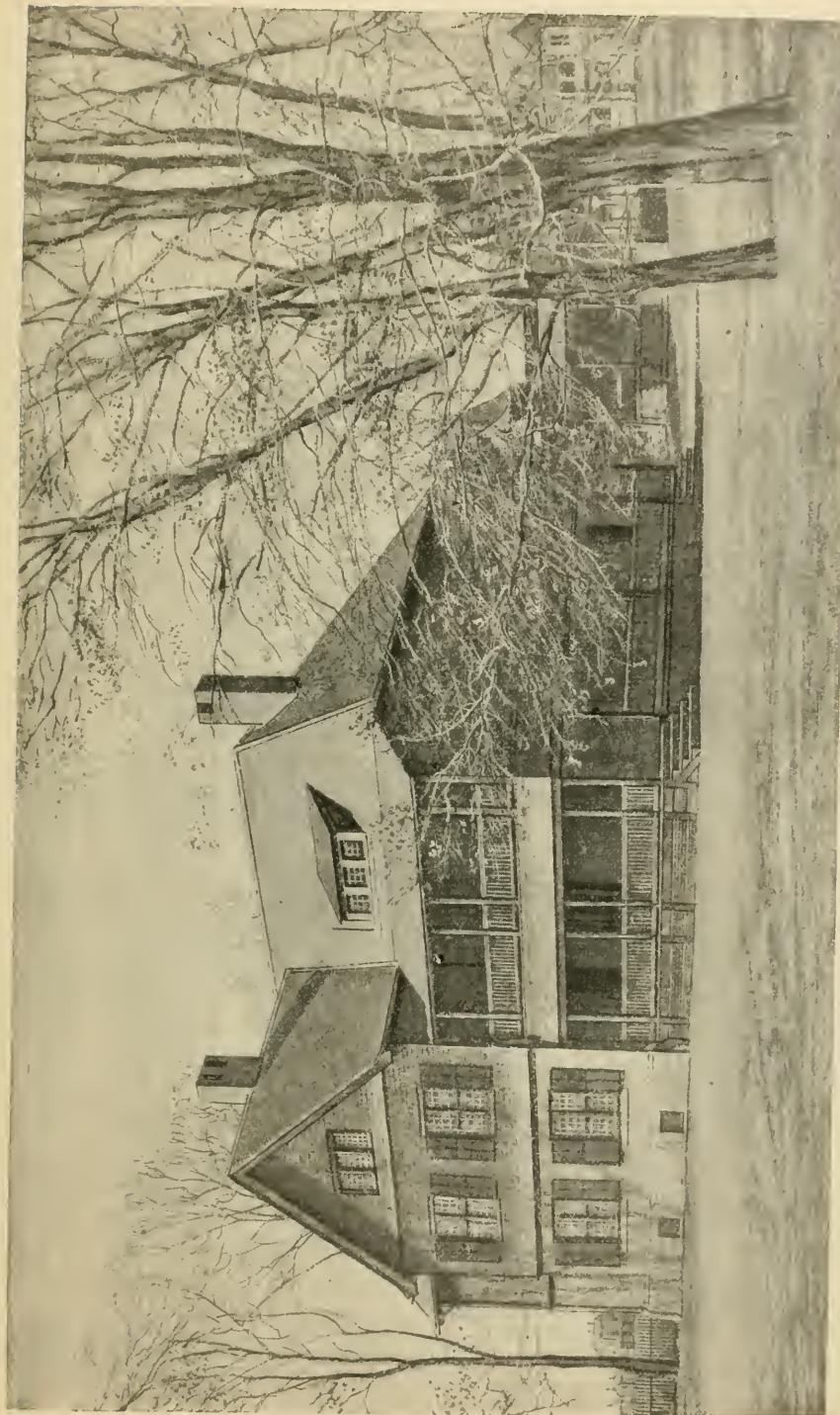
This institution is the third in age of those which have been established for the exclusive care and treatment of the insane in the United States. It may be regarded as the offspring of the Connecticut Medical Society, as action towards its establishment was begun and carried forward to success by this society; at the same time it belongs to Hartford in an especial degree, as its citizens contributed more than one-fourth of the necessary funds for its establishment, and more than any other town or city in the State. One of Hartford's most eminent physicians was appointed as its first Superintendent, and succeeded in establishing for it, both in this country and in Europe, a high reputation, which it has never lost.

The buildings are located upon high ground, with a splendid outlook over the Connecticut River to the east, and less than one mile directly south from the State House. The grounds comprise about twenty-five acres, which are laid out as an English lawn-park, and contain some of the finest specimens of tree-grouping in the country. These grounds are for the special use and enjoyment of the patients, but may be enjoyed upon any day by the public from the delightful



RETREAT FOR THE INSANE.

drive-way which skirts their borders. The buildings consist of a center, for executive purposes, and two wings, one for each sex. Each wing has six separate halls, so that the seventy patients occupying it may be classified according to their mental condition. These halls and the rooms adjoining them are fitted up in as homelike and in as comfortable a manner as it is possible to make them. It is thought by those in charge that the reflex influences arising from pleasant surroundings upon disordered minds prove highly conducive towards restoration to health. There have also been erected two cottages upon the grounds for the benefit of those patients whose friends desire or prefer for any reason more spacious accommodations and such as can be visited without going into a public institution. These are situated upon the southern border of the grounds, and the view constantly present from the rooms, and the piazzas connected with each suite of rooms, can be equaled by few homes in the country. The number of patients is limited, but it would be safe to say that no institution in the country of its kind provides more delightful halls and rooms. The visitor may pass through the larger portions of the buildings without hearing the slightest disturbance, and we understand that mechanical restraint has been used in a few cases only since 1877, and then only for short periods and for special reasons. The Retreat is governed by a board of directors, who serve without compensation, and is officered by a superintendent physician and two assistant physicians, with a steward and matron. There have been nearly 7,000 patients admitted since April 1, 1824; and more than 3,000 have been discharged as recovered. All information as to the reception of patients can be obtained by writing to or visiting any one of the managers.—Hon. William R. Cone, Dr. Gurdon W. Russell, and Rodney Dennis, or the superintendent, Dr. H. P. Stearns.



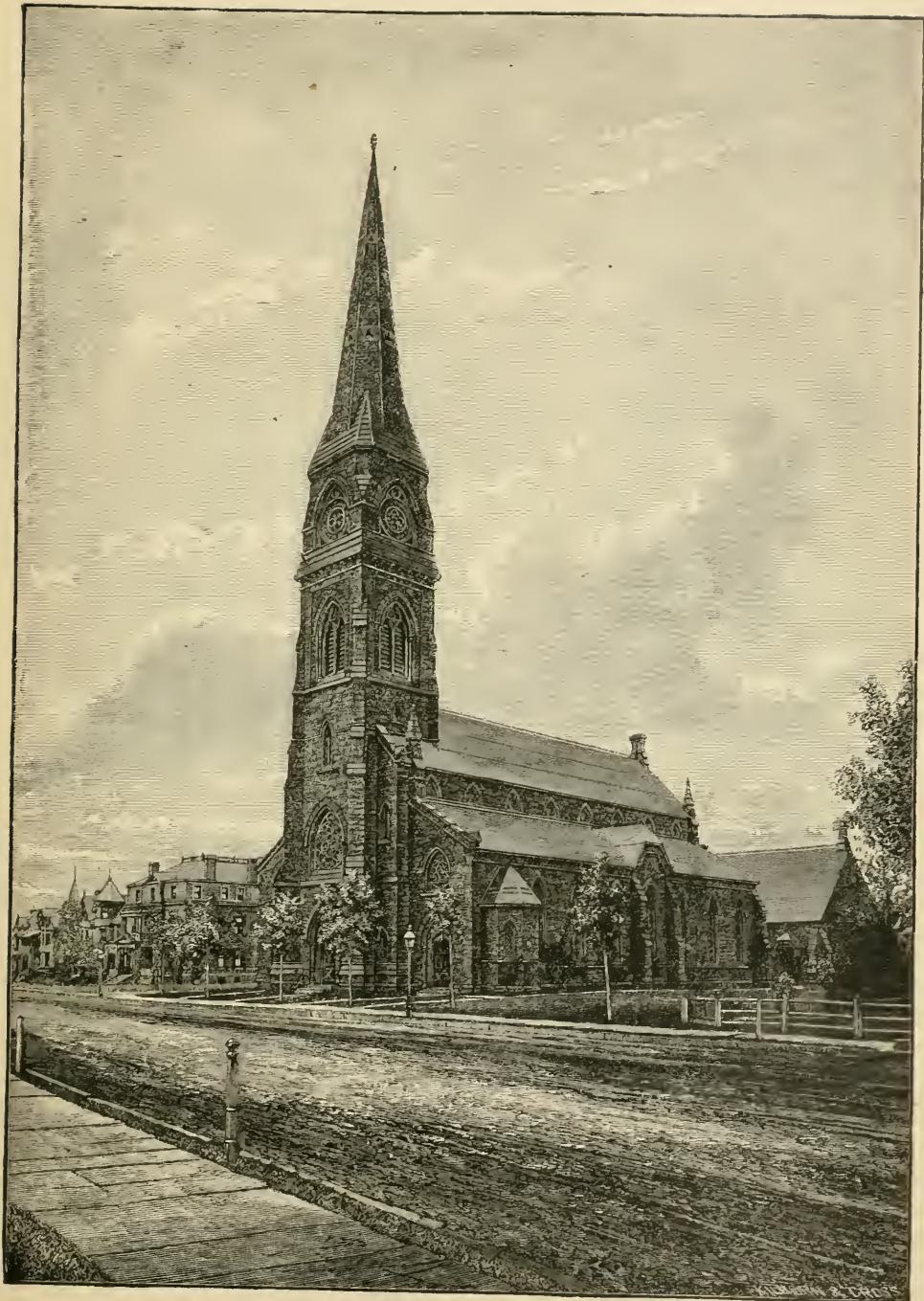
THE COTTAGES.

CHURCHES.

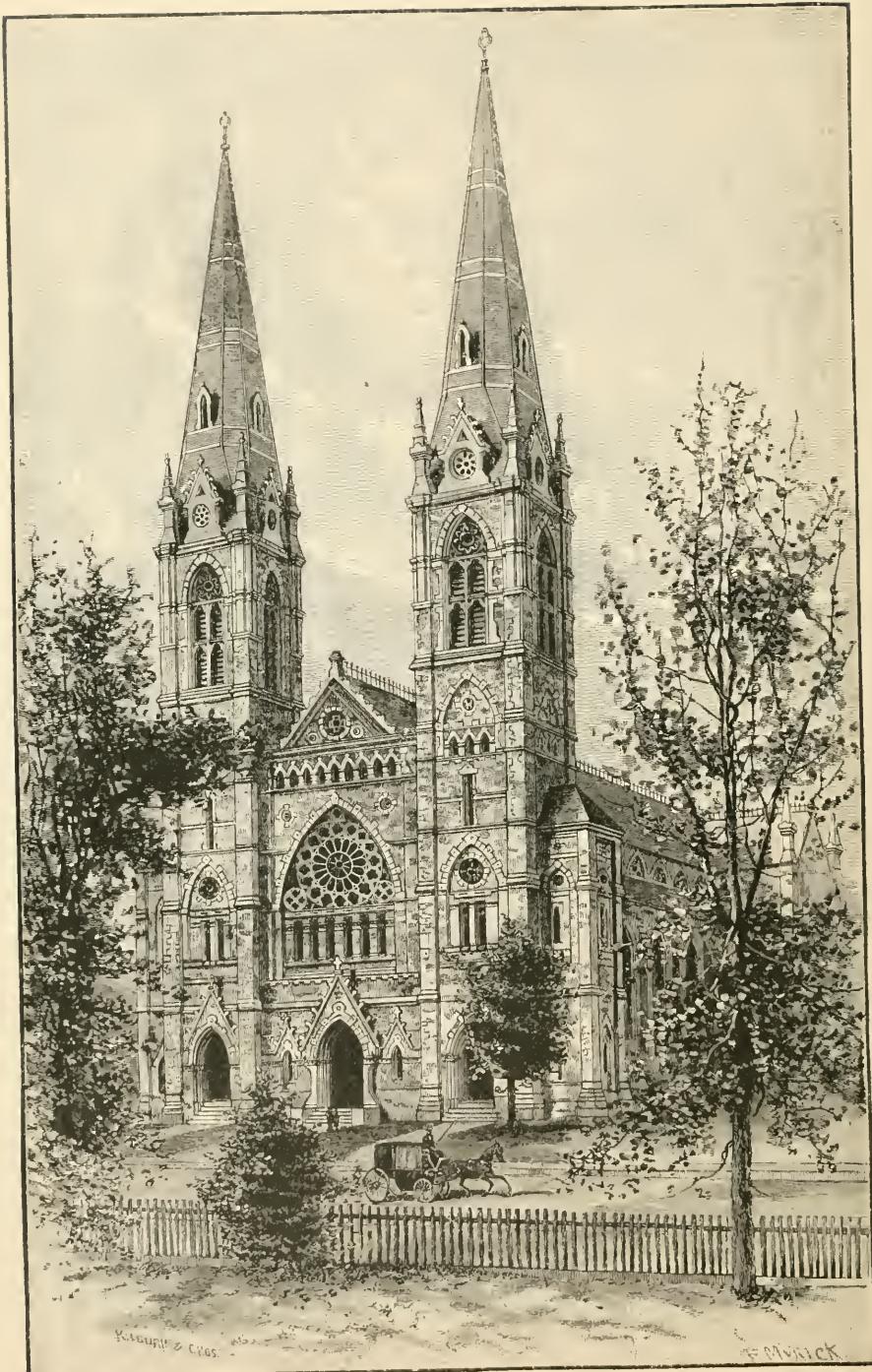
From the days of Rev. Thomas Hooker Hartford has been noted for pulpit talent. The first church, organized as early as 1633, at Newtown (Cambridge), Mass., was transplanted in 1636, and became a power in the civil as well as religious affairs of the infant commonwealth. The following list gives the name, denomination, date of organization, and location of the churches of the city. All the leading shades of theological opinion are represented, and in whatever quarter a resident may locate, he need not travel far on Sundays to meet with sympathetic worshipers.

First	Congregational,	organized 1633,	. . .	227 Main.
Second	"	1670,	. . .	91 Main.
Fourth	"	1832,	. . .	509 Main.
Pearl Street	"	1852,	. . .	40 Pearl.
Wethersfield Avenue	"	1873,	. . .	154 Wethersfield Ave.
Park	"	1824,	. . .	290 Asylum.
Asylum Hill	"	1864,	. . .	814 "
Windsor Avenue	"	1870,	. . .	900 Main.
Pavilion	"	1870,	. . .	
Talcott Street	"	1833,	. . .	30 Talcott.
Christ Church,	Episcopal,	1762,	. . .	413 Main.
St. John's,	"	1841,	. . .	178 "
St. James,	"	1868,	. . .	Park.
Trinity,	"	1859,	. . .	128 Sigourney.
Good Shepherd,	"	1866,	. . .	Wylls Ave.
St. Thomas,	"	1870,	. . .	871 Main.
Grace Chapel,	"	1866,	. . .	Parkville.
African	Methodist,	1836,	. . .	269 Pearl.
First	"	1820,	. . .	305 Asylum.
North	"	1871,	. . .	903 Main.
South Park	"	1869,	. . .	21 "
Beth Israel,	"	1850,	. . .	Charter Oak Ave.
First	Baptist,	1789,	. . .	450 Main.
South	"	1834,	. . .	125 "
Windsor Avenue	"	1871,	. . .	Suffield.
Union	"	1878,	. . .	35 Wooster.
Memorial	"	1884,	. . .	Jefferson.
Asylum Avenue	"	1870,	. . .	866 Asylum.
German Lutheran,	"	1880,	. . .	125 Market.
Catholic Apostolic,	"	1868,	. . .	20 Spring.
Warburton Chapel,	"	1866,	. . .	61 Temple.
First Presbyterian,	"	1851,	. . .	136 Capitol.
Unity,	"	1844,	. . .	26 Pratt.
Second Advent,	"	1859,	. . .	Summer St.
Universalist,	"	1827,	. . .	234 Main.
St. Joseph's Cathedral,	"	1877,	. . .	150 Farmington Ave.
St. Patrick's Church,	"	1823,	. . .	83 Church.
St. Peter's Church,	"	1859,	. . .	44 Main.
St. Lawrence O'Toole,	"	1876,	. . .	Laurel.

Trinity College and the Retreat for the Insane each has a chapel of its own, as have the Cedar Hill and Spring Grove cemeteries.



ASYLUM HILL CONGREGATIONAL CHURCH.



ST. JOSEPH'S CATHEDRAL.

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HARTFORD HOSPITAL.

Incorporated in 1854, and organized by the choice of directors in 1855, the Hartford Hospital dedicated in April, 1859, the central building and north wing of the present structure, with accommodations for forty-four patients, the work having been completed in time to be of great service during the war, in providing treatment for sick and wounded soldiers. Ten years later the south and two east wings were built, and since then other important departments have from time to time been added, at a total cost on land and construction account of a quarter of a million of dollars, all contributed by individuals except \$50,000 given by the State. The institution has received many liberal donations and bequests, which have been set aside as a permanent fund. During the past year 855 patients were treated at an expense of \$39,546.15, of which \$27,659.11 were contributed by the State, by towns, and by individual beneficiaries, leaving a balance of \$14,914.62, chargeable to the income from investments and to gifts. The wards contain 164 beds. Connected with the hospital is a successful training school for nurses.

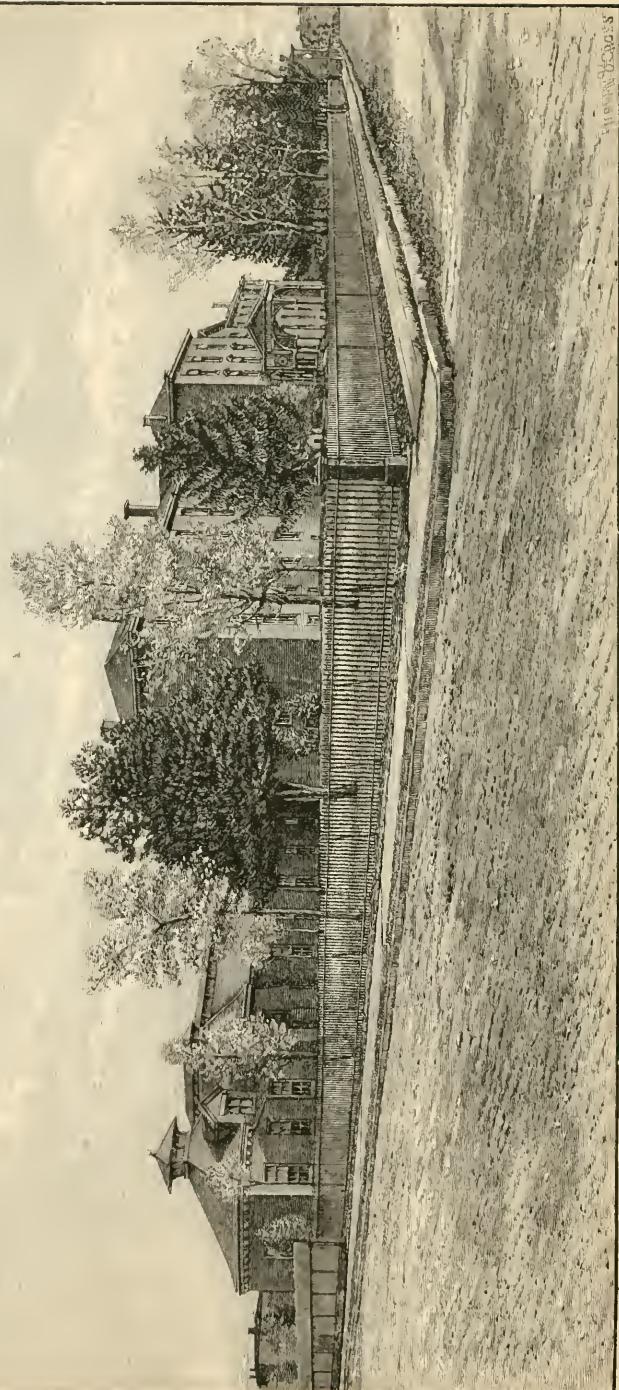
Gurdon W. Russell, M. D., president; J. B. Bunce, vice-president; Ward W. Jacobs, secretary and treasurer.

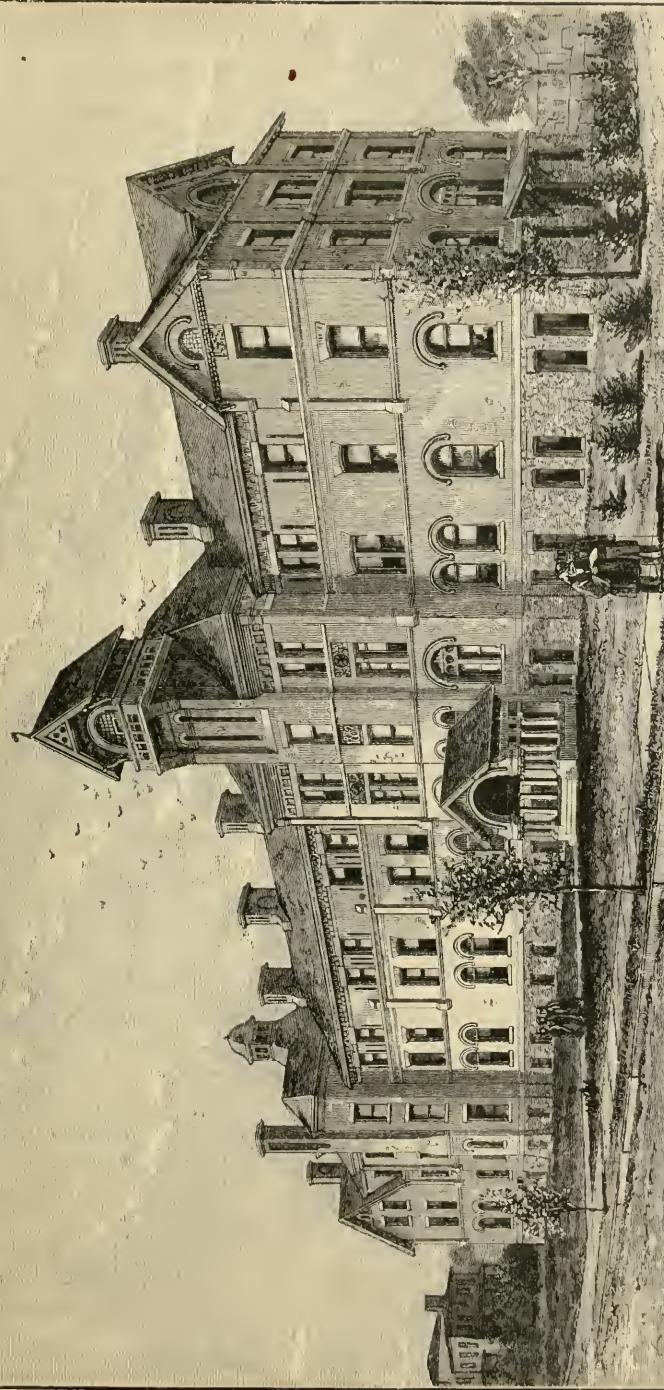
OLD PEOPLE'S HOME.

As an appendage to the hospital the Old People's Home was opened for the reception of inmates December 1, 1884. Its primary aim is to provide under certain restrictions permanent and comfortable quarters for the aged of both sexes, who have through misfortunes lapsed from better circumstances into a condition of partial dependence, or who through the death of friends or other causes find such a refuge desirable. Its beneficence is not restricted by sectarian, local, or race limitations, except that applicants for admission must be citizens of Connecticut, not under sixty years old, and in reduced circumstances. The grounds and building cost \$120,940.20. At the close of the last year there were forty-six permanent inmates and ten boarders. From lack of funds the Home is largely dependent on current contributions for support.

P. M. Hastings, M. D., is supervisor.

THE HARTFORD HOSPITAL.





OLD PEOPLE'S HOME.

HARTFORD ORPHAN ASYLUM.

After some preliminary efforts extending back to 1829, the Hartford Orphan Asylum was chartered by the State in May, 1833. The institution drew its early support mainly from contributions collected in the churches. In 1836, a building on Washington street was presented to it and to the Female Beneficent Society, founded in 1819, for friendless and indigent little girls. In 1865, the two were united by permission from the legislature. In 1875, a lot fourteen acres in extent, between Capitol avenue and Park street, was purchased, and through the generous contributions of our people the present commodious and attractive building was ready for occupancy in October, 1878. As many as seventy-five little children are cared for at one time, and, surrounded by pleasant and wholesome influences, are given the privileges of a good home. From the character of its work this charity has always commanded the warm support of the benevolent.

In 1871, after several years of effort, the WOMEN'S CHRISTIAN ASSOCIATION opened a "boarding home" for women on Church street, at a cost for land and building of about thirty thousand dollars, raised by voluntary contributions. It has accommodations for about fifty persons and is self-supporting, as the advantages it offers are highly prized and eagerly sought.

The CITY MISSIONARY SOCIETY, started in 1850 as a mission Sunday-school, under the earnest labors of David Hawley, and after his death in 1876 of Mrs. Virginia T. Smith, has expanded into a comprehensive charity, which on several quite distinct lines of effort aims not only to relieve present wants but to fit both old and young to care for themselves. It has industrial rooms in the city, a summer resort for poor children in the country supported from the "fresh air fund," a free employment bureau, a loan fund for assisting the distressed over temporary difficulties, etc. Mrs. Lucy S. Church, who passed away in July, 1888, left to the society a bequest of \$50,000, which may be devoted in whole or in part to the erection of a building for its uses.

The UNION FOR HOME WORK, non-sectarian in character, was

organized in 1872, with the special view of improving and elevating the condition of poor women and children. The Union owns a building on Market street, erected by subscription at a cost of \$22,000, and opened in 1884. Through its efforts the sanitary features and comforts of cheap tenements have been materially improved. It has a library of 2,000 volumes, reading-rooms for boys and girls, a day-nursery, industrial schools, etc. The work is carried on under the immediate superintendence of Mrs. E. L. Sluyter.

The YOUNG MEN'S CHRISTIAN ASSOCIATION, with a membership of about nine hundred, ranks first in the State in numerical strength. It has an elaborate gymnasium and fine reading and social rooms. By gift from Gen. Charles T. Hillyer, the Association has recently become the owner of a valuable lot overlooking Bushnell Park, where it expects soon to erect a suitable building.

The UNITED WORKERS AND WOMAN'S EXCHANGE was started five years ago under a different name, to do for girls deprived of the advantages of home-life what Christian associations aim to do for young men. A parlor and library are open every evening except Sunday, where girls can meet socially, and, if they desire, for instruction in drawing, elocution, fancy work, dress-making, etc. Women can also bring their work to the Exchange for sale.

Within a year, through gifts ranging from a few cents to thousands of dollars, Seminary Hall on Pratt street, once a famous school for young ladies, has been bought and fitted up with a library, reading and play rooms, etc., for the permanent use of the newsboys of the city, under the name of the GOOD WILL CLUB. The rentals from two fine halls on the second floor will largely provide the means for meeting current expenses. Thus far the expenditure for property and construction exceeds \$20,000.

There are other benevolent organizations in the city which are here omitted, as it is the object of this volume, in matters outside of our industrial activities, to present classes of facts which illustrate the spirit and character of the people, rather than to give general historical details, or to catalogue existing associations.

CONCLUSION.

On looking into the mechanical industries of Hartford, attention is continually called to the high standard of excellence which constitutes perhaps the most distinctive feature of the situation. Many instances might be given of the intolerance of our artisans toward crude models and poor work. Often have they refused proffered contracts, though backed by good security and padded with ample profits, because the designs submitted were too faulty for successful use. They would not take the money of a deluded enthusiast, knowing that the results could produce no equivalent in return.

Well-directed labor, intelligently and faithfully performed, is in itself both a moral discipline and an ennobling form of worship. The object wrought upon embodies a manifestation of the spirit of the maker to the Spirit of the universe, needing the eloquence of no advocate to proclaim its worth. Bad work, on the contrary, whether buried in the walls of unsound structures, or in whatever shape put forth, builds up an indictment which neither prayers nor tears can change. Viewed in its relation to the unfoldment of character, it is a rare privilege to belong to a community of which the story given in these pages can be truthfully told. Of such, indeed, has it not been said, "Well done, thou good and faithful servant; thou hast been faithful over a few things, I will make thee ruler over many things; enter thou into the joy of thy lord"?

Appendix.

ARTICLES OF ASSOCIATION OF THE BOARD OF TRADE OF THE CITY OF HARTFORD.

ARTICLE 1. The name of this Association shall be the Board of Trade of the City of Hartford, Conn.

ARTICLE 2. The object of this Association shall be to unite the energies of our citizens in a common effort to promote the material interests of our city, and to foster and encourage all those industrial enterprises which shall tend to develop the sources of wealth and advance public and private prosperity.

ARTICLE 3. The officers of this Association shall be a President, two Vice-Presidents, a Secretary, a Treasurer, and twenty-five Directors.

ARTICLE 4. The Board of Directors shall be chosen by the Association, by ballot, at their annual meeting, which shall be on the second Tuesday of January in each and every year; and the Board so chosen shall elect the President and Vice-Presidents by ballot, and shall appoint the Secretary and Treasurer.

ARTICLE 5. It shall be the duty of the Board of Directors to encourage and stimulate in every suitable way the business interests of this city and to promote its welfare, and it shall be the duty of the special committees, appointed by the President from time to time for the purpose, to examine all plans and suggestions that may seem important to the general interests of our city, to investigate mechanical inventions and manufacturing, and other enterprises, and report to the Association the value of them, and what steps, if any, may be necessary to procure their development and location in our midst.

It shall be the duty of said Board of Directors to receive applications in behalf of meritorious inventions and enterprises, and bring them to the attention of capital seeking investment.

ARTICLE 6. Said Board of Directors may prescribe such rules and regulations as they may deem expedient and necessary for the government of the Association and for the carrying out of the objects thereof not inconsistent with the articles of association and by-laws, and said Board shall have power to fill any and all vacancies which may be occasioned by death or resignation.

ARTICLE 7. The dues or assessment for any one fiscal year shall not exceed ten dollars for each individual member.

ARTICLE 8. These articles may be altered or amended at the first meeting of the Association, or at any subsequent meeting duly warned for that purpose.

By-Laws of the Board of Trade.

ARTICLE I.

MEETINGS OF THE ASSOCIATION.

The annual meeting of this Association shall be held on the second Tuesday in January, in each and every year, and the regular meetings at such intervals as the Association may from time to time prescribe.

ARTICLE II.

SPECIAL MEETINGS.

Special meetings of the Association may be called at any time by the President or Secretary, and shall be called by the Secretary on the request, in writing, of seven of the Directors or twelve members of the Association. Notice of such special meeting may be given to the members through the mail, or by publication in a daily paper published in Hartford, at least two secular days before said meeting.

ARTICLE III.

A QUORUM.

At all regular or special meetings fifteen members shall constitute a quorum.

ARTICLE IV.

BOARD OF DIRECTORS.

The Board of Directors shall consist of twenty-five members; and from their number they shall elect a President and one of the two Vice-Presidents. Said Board shall manage the property, affairs, business, and concerns of the Board of Trade, but shall incur no single item of expense or contract liabilities on behalf of the Board of Trade exceeding the sum of \$100. except as salaries and rents, without the sanction of the Board of Trade.

ARTICLE V.

All officers elected by the Board of Directors shall hold their respective offices until the next annual meeting of the Association, and until their successors are duly elected and qualified.

ARTICLE VI.

QUORUM OF DIRECTORS.

Sixty members of the Board of Directors shall constitute a quorum of said Board, whose duties are set forth in Articles V and VI of the original Articles of the Association, and Article IV of these by-laws.

ARTICLE VII.

THE PRESIDENT.

It shall be the duty of the President to attend and preside at all the meetings of the Association or the board of directors, and in his absence one of the vice-presidents shall preside, and in the absence of the president and both vice-presidents, the meeting may appoint its own chairman. The president may appoint standing committees, and from time to time special committees from the board of directors and the membership at large, to investigate and report upon designated subjects.

ARTICLE VIII.

THE SECRETARY.

It shall be the duty of the Secretary to keep a true and correct record of all votes, acts, and proceedings of the Association, and of the board of directors, and of the special committees, to issue all notices that may be required by the president or other proper authority; to keep in a suitable book the name of each member of the Association; and at the annual meeting to report the transactions of the Association for the previous year; to notify members and all officers of their election. The secretary shall receive such compensation as the directors may from time to time vote.

ARTICLE IX.

THE TREASURER.

It shall be the duty of the Treasurer to receive and take charge of all moneys of the Association and to disburse the same only upon the written approval of the president, and annually, and at such other times

as he may be called upon, to report the financial condition of the Association. He shall furnish bonds as required by the directors. All money shall be deposited to the credit of the Board of Trade.

ARTICLE X.

MEMBERSHIP.

Any individual residing, or doing business in the City of Hartford, may become a member of the Board of Trade, on the recommendation of three members, and the approval of the membership committee, and by signing the articles of Association and agreeing to pay the annual dues.

Annual dues or assessments shall be levied on all persons who are members of the Association during the year, except as hereinafter provided. The fiscal year for which assessments are made shall expire at the annual meeting held next after the assessment is made, unless the vote making such assessment shall specify otherwise.

The fees or assessments made during any one fiscal year shall not exceed ten dollars, but all new members shall pay ten dollars for the remainder of the first fiscal year of their membership, and in lieu of all assessments for said period.

ARTICLE XI.

SUSPENSION OR EXPULSION.

Any member may be suspended or expelled by a vote of two-thirds of all the members of the Association present.

No member shall be suspended beyond the next meeting of the Association or expelled without first being made acquainted with the charges against him, and he shall have a right to appear before the Association in his own defense. No expelled member shall be readmitted to the Association within twelve months from date of expulsion, unless by unanimous vote of the Association at a regular meeting. Non-payment of any dues, after thirty days' notice, shall be sufficient cause for dropping any member from the roll of membership.

ARTICLE XII.

PARLIAMENTARY AUTHORITY.

The rules of order and parliamentary practice shall be in accordance with Cushing's Manual.

ARTICLE XIII.

ORDER OF BUSINESS.

Order of business shall be as follows:

1. Minutes of the previous meeting.
2. Communications.
3. Reports of committees, regular and special.
4. At annual meetings, reports of secretary, treasurer, and board of directors.
5. At annual meetings, election of directors.
6. New business.
7. Miscellaneous business.

ARTICLE XIV.

AMENDMENTS TO BY-LAWS.

These by-laws may be repealed, altered, or amended, at any meeting of the Association, duly called, by a majority vote of the members of the Association present, provided such change or changes shall have been recommended by the board of directors at a meeting held at least one week before action upon them is submitted to the Association, and notice of the same published in at least two daily papers of the city three days before the meeting of the Association which is to vote upon them. But any by-law may be suspended at any meeting by a unanimous vote of all the members present, but for that meeting only.

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